



PHD

An investigation into the applicability of evolutionary theory to the study of micro firms

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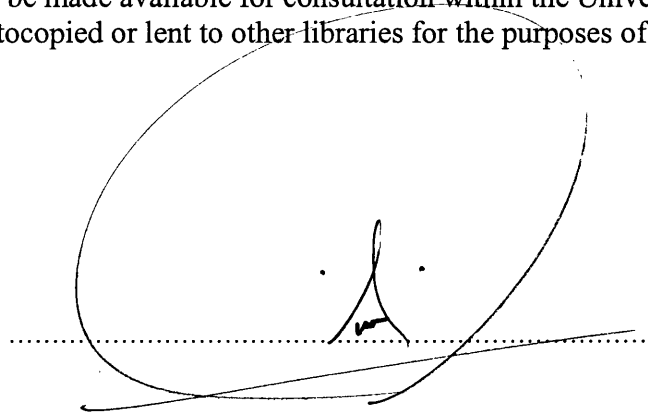
An Investigation into the Applicability of Evolutionary Theory to the Study of Micro Firms

Submitted by Simi Rezai-Ghassemi
for the degree of Ph.D.
at the University of Bath
2004

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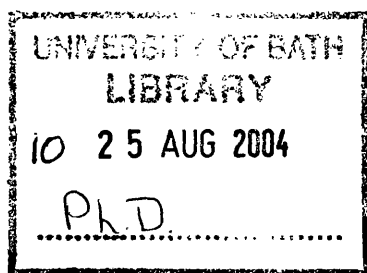
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ABSTRACT

Evolutionary theory developed through exchanges between the natural and social sciences has been applied to problems in sociology, economics and organisational theory (Campbell, 1969; Hodgson, 1993; Aldrich, 1999). Universal Darwinists and others contend that an evolutionary algorithm applies as much to the social as to the natural domain (Dawkins, 1976; Dennett, 1996). If so, where do the three pillars of a Darwinian theory of evolution - namely variation, retention, and selection - reside in the social domain?

A model of the evolutionary algorithm developed through the course of the study, was used to describe the emergence of four Internet service companies in the Bristol area, over a four year period, by qualitative interpretation of longitudinal case studies developed through series of interviews. Through providing exemplars of evolutionary change, empirical investigation supported the core features of the model, suggesting that social, organisational, and entrepreneurial processes may be *actually* rather than *analogically* evolutionary. Also, it was found to provide a basis for further inquiry, theory building, and hypothesis generation.

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CHAPTER 1 - INTRODUCTION

1.1. Research background

Evolutionary theory developed through exchanges between the natural and social sciences has been applied to problems in sociology, economics and organisational theory. Universal Darwinists and others contend that an evolutionary algorithm applies as much to the social as to the natural domain. If so, where do the three pillars of a Darwinian theory of evolution - namely variation, retention, and selection - reside in the social domain?

Affirming that possibility, evolutionary and co-evolutionary approaches have contributed to the development of evolutionary perspectives on organisational change (Van de Ven & Poole, 1995, 2001; Baum & Singh, 1994; Baum & McKelvey, 2000), though without empirical investigation of *emergent* organisations (Aldrich, 1999). Alternatively, developmental and stage growth models of organisational change have been used to theorise and investigate the development of *successful* small firms (Levie & Hay, 1998).

1.2. Research question

An opportunity arises then to explore the ontology of the evolutionary algorithm in a new setting. Is the emergence of the micro firm and the entrepreneur, *actually* rather than *analogically* evolutionary, with respect to multiple units of selection? Can

evolutionary theory be applied to the study of micro firms - successful, stable, *and* failing?

1.3. Research methodology

The research uses a single industry, longitudinal design, using a model of the evolutionary algorithm to describe the emergence of micro firms and entrepreneurs. Primary data were collected through series of interviews with key members of Internet and related services businesses for the years 2000 to 2003. Through extensive trials, an evolutionary analysis grounded in the data could not be produced. Instead, the terms of the model were revised both through reference to the data and contact with the literature. Primary data were used to develop four case studies. Qualitative interpretations were then produced to provide exemplars of evolutionary change according to the terms of the model. The investigation was evaluated for coherence, support to further inquiry, and replicability.

1.4. Layout of the study

Following this introduction, chapter two presents both a review of evolutionary perspectives in social, and especially organisational science, and a survey of areas of the small firm literature, indicating the opportunity for research. Taking up points of departure in the literature, chapter three elaborates a model of the evolutionary algorithm, including the three pillars of the Darwinian theory. Chapter four describes the course of the research, the principles guiding both data collection and analysis,

particularly the value of the case study approach for the present study, and how, though developed through the course of an empirical investigation, the terms of the model may be given *a priori* definition. The four case studies themselves, with their analyses, and findings are presented in chapter five. These findings, with their key implications for theory, further research, and management are discussed in the final chapter.

CHAPTER 2 - LITERATURE REVIEW

2.1. Introduction

The purpose of this chapter is to develop the context for the present study, through a brief description of previous research, and a discussion of the opportunity for research that it presents.

In the first section, the lineage of evolutionary theory in natural and especially social science is indicated. In particular, the idea of an evolutionary algorithm is introduced, with a discussion of some interpretations of evolutionary theory. In the second, some important areas of study - development and growth, entrepreneurship, emergence, and business management processes - are then discussed in a survey of the small firm literature. This will point to an opportunity for research, which is described in the last section.

The literature review provides the background for the theoretical model developed and presented in chapter three.

2.2. Evolution

2.2.1. Origin of theories

Though it was Herbert Spencer who popularised “survival of the fittest” and “evolution” - Charles Darwin preferred “descent with modification” - evolution is

popularly associated with the author of *Origin of Species by Means of Natural Selection* (Hodgson, 1993; Burnie, 1999; Jones, 2001)¹. The voyages of the *Beagle*, and the encounter in the Galapagos, with varieties of finches, are well known. Less widely understood is the extent to which not only continents, but disciplines were crossed as a result of Darwin's voyage. Starting with his encounter with Thomas Malthus, one shared by Wallace, evolutionary theory has been subsequently developed through exchanges between the natural (life) and social sciences, lines traversed, if variously, by Wallace, Veblen, Campbell, Dawkins, Dennett, Nelson and Winter, and Gould, among many others (in Hodgson, *ibid* & 2003).

Following Buffon and Lamarck, in France, and Erasmus Darwin (Charles's grandfather) among others, Darwin contributed both a scientifically collected body of evidence, and a general theory of evolution by natural selection. To this day, Darwin's fundamental theory remains unsurpassed, surviving expansion of the scientific enterprise, and the fossil information available, improved sophistication in technology and technique, and the rise of microbiology, sociobiology, and, after Mendel, modern day genetics (Burnie, *ibid*; Hodgson, 1993; Jones, *ibid*)².

2.2.2. A Darwinian evolutionary algorithm

The keynotes of the Darwinian theory are now presented. As has been recognised, Darwinian theories of evolution, whether in natural or social science contexts, have

¹ The German biologist Albrecht von Haller was the first to systematically apply the word "evolution" to natural phenomena, in 1744.

² This has given rise to what has been referred to as neo-Darwinism, or Weismannism (Hodgson, 2001a).

three constitutive theoretical elements in common (Hodgson, 2002). First of all, there must be variety in a competitive environment. Variety is difference in the characteristics of the unit of selection, whether the unit be species, population, gene, organisation, routine or meme³. Variety is generated (and replenished) by mutations and fuels the evolutionary process. Competition is the struggle for existence. Second, the environment selects the fittest forms of unit for persistence. Third, there must be a retaining mechanism for passing characteristics on (Burnie, 1999; Hodgson, 1993 & 2003).

Taken together, these form the three pillars of the Darwinian theory, and an evolutionary algorithm (Dennett, 1996). Where variation, retention, and selection obtain in respect of a unit of selection, evolution may be said to occur. In the biological domain then, by way of an example, individual organisms within a species vary considerably as a result of mutations passing on through reproduction from one generation to the next. Competition or struggle to survive in the environment will favour members of populations whose characteristics are best fitted to the conditions. Surviving to maturity, it is generally those individuals that reproduce, and pass their characteristics on to progeny. Through a continuous and gradual process, species become better adapted to environments, speciation or creation of distinct species occurring where members of populations are differentially affected by environmental changes, over time, following differentiated adaptive paths (Jones, 2001; Burnie, 1999).

³ For now indicative, these terms will be discussed further. The author does not wish to imply that agreement obtains as to the theoretical legitimacy of all of these units of selection alike.

2.2.3. Evolutionary economics

The theory has a wide footprint in social science, rather than a wide foothold. In economics, evolutionary theory now occupies something of a niche, after Nelson and Winter's important *Evolutionary Theory of Economic Change* (1982) developed an alternative basis for theorising in industrial economics. Though focusing on the theory of the firm, a mainstay of the (neo)classical mainstream, the work contributed to a well known, if diverse, line of critical or unorthodox theoretical perspectives in economics, more united by their opposition, than by any readily defined commonalities, running back to such writers as Veblen, and Alchian (Alchian, 1950; Downie, 1955; Dosi & Nelson, 1994; Nelson, 1991, 1995; Metcalfe, 1994; Nightingale, 1997; Vromen, 1995; Hodgson, 1993, 1995, 2001b, 2001c). Four recurrent criticisms in this anti-tradition are that economic realities are dynamic in nature, not static as they are modelled in the (neo)classical schema; the knowledge of agents is imperfect, or, at any rate, not complete, especially with respect to the future; the behaviour of agents is not driven toward a single goal – people and companies do not just ‘maximise’, but have complex and multifaceted behaviour; and a bias toward equilibria and discrete, definable points is inappropriate to the study of realities which are complex and unfolding.

Identifying a common point of departure among various branches of heterodox economics, Potts (2000) contended that a shared underlying ontology of connections - a view that the world is constituted by incomplete webs of connections between actors, and ideas - described a new evolutionary (micro)economic theory appropriate to the study of socio-economic processes in a world populated by boundedly rational actors.

Evolutionary perspectives are one group among a number to challenge the traditional economic paradigm (e.g., game theoretic approaches, agency theoretic approaches, transaction cost economics[TCE]).

2.2.4. Organisational theory

In contrast to economics, other areas of social science, especially organisational theory have provided seemingly more fertile soil for evolutionary perspectives. Following Donald Campbell's seminal 1965 work (reprinted in 1969), such writers as Aldrich (1999, 2001), Amburgey and Rao (1996), Baum and McKelvey (2000), Baum and Singh (1994), Langton (1984), Dooley and Van de Ven (1999), Romanelli and Tushman (1985), and many others have contributed to developing what have been called evolutionary perspectives of organisational change. A psychologist by training, and polymath, by nature, Campbell was quick to articulate how an emergent socio-cultural, and organisational universe could also be moved by selective forces described by Darwinian principles (Baum & McKelvey, *ibid*). His 'Blind Variation, and Selective Retention' model set out universal principles of evolutionary change, applicable to all open, complex systems identifying evolution in both the natural and socio-cultural domains as special cases of a more general framework. Evolution by natural selection gave rise to human subjects, and human agency, in turn shaping vicarious selectors - selective forces residing in socio-cultural substrates - which, *in combination* determine the course of evolution taken by at once natural and social units (Campbell, 1969; Aldrich, 1999; Richerson & Boyd, 2000; Baum & McKelvey, 2000). Campbell thus posited a system for inheritance of acquired variation (taken to characterise evolution in

the socio-cultural, as opposed to natural domain), where culture could be transmitted from person to person, and an account made of the distinctive evolution of institutions, culture, and social behaviour, but still governed by natural selection. This insight paved the way to so-called multi level analyses (Aldrich, 1999; Van de Ven & Grazman, 1999; C. Jones, 2001).

Though Campbell's notions of blind variation, selective retention, and competition for scarce resources have not necessarily been everywhere adopted, the various strands of Campbell's work have served as common points of reference for a number of areas in the literature. Authors such as Hannan and Freeman (1984, 1989), Hannan and Carroll (1995), and Barnett (1990) are identified with the sub-field of organisational or population ecology. Organisations here exist as generalist or specialist variants of forms within a niche, a particular section of the environment. All organisations of a form comprise a population, which, in consequence, has unit character. Organisations, and forms are modelled as structurally inert, with the result that change occurs at the population level through differential selection - with resources becoming more or less available to organisations and disrupting competitive interdependencies. Ecological approaches have tended to focus on events and patterns of mortality, founding, and dissolution at the population level by means of broad longitudinal statistical analyses, and computer simulation, rather than on transformational processes *within* the organisational unit itself.

This last trend also bears the mark of Campbell's influence, and has been compared to the microstate or synthetic turn in biology, in making parts of organisations - e.g.

routines - units of selection, rather than the bounded entities that are effectively their hosts (Miner, 1994; Lovas & Ghoshal, 2000; Pentland, 1994, 1999; Pentland & Rueter, 1994; McKelvey, 1982). In an innovative taxonomy of organisations, McKelvey contrasts monothetic and polythetic conceptions of organisational form (McKelvey, *ibid*), an area of discussion continued in the organisational learning literature, with questions of whether bundled or coupled routines, processes, and competencies may be analytically decomposed (Pentland & Rueter, *ibid*; McKelvey & Aldrich, 1983; Levinthal, 1991; Miner, *ibid*).

The minutiae of evolutionary processes, the nature of the units themselves have been paid considerable attention (Dawkins, 1976; Dennett, 1996; Hodgson, 2001a, 2003; Blackmore, 1999). The fledgling field of memetics, emerging after Dawkin's 1976 proposition of the meme, a social unit of heredity, or replication equivalent to the gene, has seen its conception variously developed as cultural, social, even physical (Aunger, 2002). Evolutionary perspectives have described the organisation as a repository for routines, with both intra and inter firm selection processes operating on populations (Aldrich, 1999; Bruderer & Singh, 1996). In economics, Nelson and Winter's (1982) early conception of routines as repositories of organisational information, analogous to the gene in the biological domain, has been refined through recognition that, rather than there being an exact correspondence to the gene, or genotype (the genetic coding of an organism) in the social domain, behavioural dispositions may be distinguished from actual behaviours, as is the case in biology (Hodgson, 2003). This may compare to a line of distinction that can be inferred between conceptions of competencies, knowledge, and representations (what may be communicated) of organisations -

associated with Prahalad and Hamel (1990), Polanyi, (1967), and Weick, (1995) - and the issue of their *actual* expression and behaviour (Aldrich, 1999).

More closely associated with Campbell, evolutionary epistemology - the notion that units of knowledge are too subject to evolution by a process of selection - has not been without influence in the philosophy of science. Here variants of theories proliferate, before an increasingly small number are selected by the socio-cultural system producing knowledge on the grounds of Popperian falsification, eliminating theory having less truth or verisimilitude (Baum & McKelvey, 2000).

2.2.5. Some criticisms of evolutionary theory

Lamarckian theory, which is here associated principally with the claim that characteristics acquired by members of a species through interaction with their environment may be passed on, has not been generally supported in experimental biology. As an example, this would admit the possibility that a species of mammal constantly straining to reach a food source somewhat above its 'average' reach might, during the course of its lifespan, learn to extend its neck, and pass this characteristic (an extended neck) on to its offspring. In spite of attempts to explain the evolution of giraffes, and other species, in this way, Lamarckian theory is not widely accepted in the biological domain where the phenotype (the actual character of an organism) has not been generally observed to affect the genotype (Burnie, 1999; Hodgson, 1993, 2003; Jones, 2001).

It has been contended that evolution in the social domain is necessarily Lamarckian. Lamarckism has equally been rejected here. It has also been argued that no necessary contradiction need arise between Darwinian and Lamarckian accounts of evolution due to the former's allowing for the possibility of variation through acquired characteristics, and the latter's requiring a causal theory of selection for completeness (Hodgson, 1993, 2001a, 2003). If the environment - or the response to it - is to be the source of adaptive variations in genotypic and phenotypic characters, Lamarckism alone, without a theory of selection, or surrogate mechanism, does not explain how predominantly advantageous rather than disadvantageous adaptations should occur, or be sought at all (Hodgson, 2001a).

Several such lines of disagreement have their counterparts, or continuation, in the natural science or social science literature, depending on their origin. Even if a consensus has emerged in the life sciences, it has by no means always been clear what could properly be regarded as the unit or object of selection, whether population, species, kin, and group, or, after Darwin, the individual, or, in neo-Darwinian or ultra-Darwinian formulations, the gene, competing to survive in the organic vehicles of individual bodies. Similarly, though the Weissmann barrier is established, it is apparently not only interactions between phenotypes that matter (Mayr, 2003).

Such proponents of memetics as Blackmore (Blackmore, 1999) have sought to establish a sequel to the gene, a second replicating entity in the form of units of thought or culture - or, memes - with a corresponding genotype-phenotype relation, and subject to a corresponding process of natural selection. A variety of objections have been raised,

for example, that culture is not of a divisible, discrete, or granular nature, or that high fidelity copying (or low mutation) - such as is required by evolution - could not take place. No corresponding physical substance has, of course, been identified (Rose & Rose, 2000).

It has been remarked that such areas of discussion have sometimes lacked in consistency and precision, and, in consequence, in comprehension and comprehensibility (Hodgson, 2001a). Nevertheless, they may perhaps be seen in the context of a broader question, that of the possibility and legitimacy of a domain or substrate neutral evolutionary algorithm. Such writers as Richard Dawkins and Daniel Dennett are associated with Universal Darwinism, the claim that all evolutionary phenomena of interest - biological, social, cultural, psychological - may be explained by the operation of natural selection. This view has been resisted by a number of authors as too simplistic and reductive, even in the biological domain, where non-adaptive variation, constraining evolutionary pathways, contingency and chance are said to play indispensable, even if auxiliary parts (Gould in Rose & Rose, 2000).

It may be possible however to present a recognisably Darwinian evolutionary theory as having an algorithmic nature, allowing "domain-specific, auxiliary explanations" (Hodgson, 2002 : 271). Both biological and social phenomena are subject to evolutionary processes, but to the different workings-out of the same algorithm. The concept of emergence describes how phenomena having an order of properties at one ontological level of reality, may give rise to a quite different order of properties at another. Colour is thereby an emergent property of atomic or particle configurations.

The particular adequacy of evolutionary theory is to offer a causal theoretical framework encompassing different ontological levels (Hodgson, 1993,2001c).

Recognition of the emergent properties of socio-cultural phenomena avoids reductionism, enabling causal explanations of both biological and social phenomena to be incorporated into analysis. It being insufficient to seek to explain human action "without [also] probing the causes behind intentions themselves" (Hodgson, 2002 : 269), evolutionary theory presents a layered or multi-level ontology, a universal theory of selection, and universal causal principle. It may be proposed then that the three pillars of a Darwinian theory of evolution - namely variation, retention, and selection - are actually, rather than analogically evolutionary, in the social domain.

A number of authors have described the 'post-positivist' landscape in organisational theory. For some, the evolutionary epistemology and realism developed by Campbell in his later writings holds out a promise of resolving phoney paradigm wars (Baum & McKelvey, 2000). Others have contended that multiparadigmaticism - a proliferation of theoretical and epistemological perspectives in organisational theory - may prove fecund (Aldrich, 1999; 2001). For example, Aldrich has attempted to show how the evolutionary algorithm may be interpreted according to appropriate combinations of elements of six theoretical approaches. Aldrich cites ecological, institutional, interpretive, organisational learning, resource dependence, and transaction cost economics perspectives in his *Organizations Evolving* (1999). He seems to relax his argument for "an overarching framework with a set of concatenated principles.. open to multiple approaches for explaining particular kinds of changes" (Aldrich, *ibid*:72) by specifying super-algorithmic aspects of "the evolutionary approach" (e.g.) " [it]

emphasizes that few people know exactly what they are doing or why.... [t]herefore, the organizations and institutions people participate in are vulnerable to being changed by aggressive members who know what they want, and are willing to work hard to get it" (Aldrich, 1999:74). Paradigmatic proliferation may also evidence a lack of critical mass in empirical research.

Affirming the possibilities of multi level evolution that Campbell's work presaged, and in recognition both of reciprocal effects between units and populations of units making up their environment, and part-whole relationships, such authors as Baum & Singh (1994), Van de Ven and Garud (1993), Van de Ven and Grazman (1999), and C. Jones (2001) have developed co-evolutionary analyses. Surprisingly perhaps, a majority of theoretical and empirical research remains single unit, or single level (Aldrich, 1999)⁴.

2.3. Small firms and entrepreneurs

2.3.1. Small firms and entrepreneurs

Small business research has expanded considerably in the last thirty years. In the UK, the Bolton Committee first published its influential report in 1971. Across the Atlantic, Birch's (1987) work highlighted the extent of the contribution made to the economy by the small firm. Research into small firms and entrepreneurship - usually treated together, as it is usually entrepreneurs that start small firms (Gibb and Davies, 1990 & 1991; Shailer, 1994; Aldrich & Auster, 1986; Reid & Jacobsen, 1988; Reid, 1993) - has

⁴ There is some inconsistency in usage with respect to the terms 'unit' and 'level'; an effort is made to clarify terms in chapter 3.

been sponsored and motivated by a range of institutions and agendas. National and local agencies have sought to facilitate growth, job and wealth creation; social scientists as diverse as sociologists, and organisational theorists have tried to define, characterise, and investigate the forms of small firms; and key factors determining success, measured as rate of profit, growth, or growth of headcount, have been investigated in *existing, successful* enterprises (Storey, 1982; Reid & Smith, 1998; Deakins, 1999; Reynolds & Hay, 2000, Smallbone, Leigh & North, 1995; de Berranger, Tucker & Jones 2001; Hannon & Atherton, 1998; Chaston & Mangles, 1997; Mertz & Weber, 1994). Criticism has been made of this bias in the literature, as the reasons for failure are not widely investigated (McGrath, 1999; Aldrich & Martinez, 2001, 2002; Benson, 2002).

Since the Bolton Committee (1971) researched the contribution of small firms to the British economy, there has been a continuing effort to give them definition. Small firms remain easier to describe than to define (Burns & Dewherst, 1996). Bolton (1971) gave a range of both qualitative and quantitative definitions of small firms, which are heterogeneous, even within an industry. Using Bolton's definition, the EC (1996) set out to consolidate and unify small firm definitions, updating such measures as turnover for inflation, and reflecting changes in the structure of certain sectors in industry. The set of quantitative definitions is based on measurable variables such as headcount and turnover. The set of qualitative definitions reflects characteristics of small firms such as independence, ownership and control, and the geographical extent and basis of operations. More recently, micro firms have been defined by the DTI (2003) as "independent businesses employing 0 – 9 employees".

2.3.2. Developmental and stage growth approaches

Researchers have tried to explain differential growth paths of small firms (Penrose, 1959; Van de Ven, Hudson & Schroeder, 1984; Glancey, 1998; Deakins & Freel, 1998). The developmental approach, as it has become known, describes the firm as a behavioural entity, whose focus of activity is to grow in a systematic and predictable way (Slatter, 1992). Firms, already established, are assumed to follow a stage by stage, sequential growth course, from birth, through growth, to maturity. According to Greiner (1972), these stages are prompted by crises. Others hold that each stage describes a corresponding management style, problem identification and solution (Churchill & Lewis, 1983; Scott & Bruce, 1987). Kakabade (in Scott & Bruce, 1987) has examined the experience of owner managers at each stage of the life-cycle model.

In a comprehensive survey of stage growth theories of development, Levie and Hay (1998) find that developmental approaches persist despite at best mixed empirical results, reinforcing a line of such criticism. Objections to the use of life-cycle theory have been made on pragmatic as well as philosophical grounds (Penrose, 1952; Freel, 2000; Gibb & Davis, 1990, 1991; McMahon, 1998). As its proponents have conceded, definition and identification of discrete stages in the life-cycle have been said to be arbitrary and lacking a clear empirical basis. Sequential and linear progression from one stage to another is found to be unrealistic. In consequence, the application of the model leads to emphasis on symptoms of growth rather than causes. More, no account is made of the effect of the environment, whether competitor behaviour, impact of new technology, or government policy etc. Changes to technology in some industries have

altered the industry to such an extent that typical life-cycle patterns need substantial revision.

A number of alternative approaches to the life-cycle model have been developed. Ansoff's matrix has been used to relate company strategy to internal historical expectations and growth paths (Watts, Cope & Humle, 1998). Motivations of owner managers have been considered; control of the business, or lifestyle issues may be of equal or greater importance than growth (Mathews & Scott, 1995; Gibb & Davies, 1990 & 1991). The business platform model (Davidsson & Klofsten, 2003), Gorton's (2000) exposition of the relevance of Bourdieu's social theory for the field, and applications of complexity theory (Fraser, 2002) have seemed to evidence variety. However, prominent criticisms have been levelled both at discontinuities in the research programme, taken as a whole, and predominance of a functionalistic paradigm (Curran, 1989; Bygrave, 1989, 1993; McMahon, 1998; Davidson, Murray & Wright, 2001; Grant & Perren, 2002).

2.3.3. Entrepreneurs, entrepreneurship, and emergence

Cantillon and Say are generally acknowledged as having introduced the concept of the entrepreneur and entrepreneurship to academic discourse. The discussion was continued predominantly by economists, receiving a variety of treatments. Schumpeter focused on entrepreneurs as innovators. Kirzner, after Walras, developed theories of coordination and arbitrage to show the role of entrepreneurs in economic activity (in Shailer, 1994). Entrepreneurs and entrepreneurship have since been studied by a

increasing variety of social scientists working across a range of disciplines, with different emphases; psychologists have sought to explore personal and psychological traits of entrepreneurs; sociological treatments have rather considered the (macro) context of entrepreneurial behaviour. Entrepreneurship, as a distinct area of study, has been established, though retaining theoretical and methodological diversity (Low & MacMillan, 1988; MacMillan & Katz, 1992; Davidson, *et al.*, 2001; Gartner, 2001; Shane & Venkantaram, 2000; Brazeal & Herbert, 1999; Schoonhoven & Romanelli, 2001; Jones & Coviello, 2002).

The nature of the entrepreneur is extensively defined (Bhide, 2000; Chell, 1991; Ray, 1993). It is considered usually in terms of personality or style. An entrepreneur may be a risk taking investor, or technically minded individual trying to apply a technology in a new or different way. Early characterisation and definition has been qualified; innovative entrepreneurs, responsible for new competencies, have been contrasted with reproducing entrepreneurs, 'competency-enhancers', working in established populations (Aldrich & Kenworthy, 1999). Entrepreneurs are not necessarily risk-loving, appropriating or transferring existing client bases, and securing new activity through parallel continuation of the old (Greenbank, 2000). Aspects of personality, psychology and determinants of growth have been extensively explored by such authors as Glancy (1998), and Deakins (1999). Mukhtar (1998) and Aldrich, Elam and Reese (1996) distinguished male and female entrepreneurial styles. Nascent entrepreneurs, and entrepreneurship have been described in terms of organisational stages (Gartner, 2001; Aldrich & Auster, 1986; Churchill & Lewis, 1983).

Social and cognitive processes of entrepreneurship have increasingly been studied. Entrepreneurship has been described as an opportunistic process, the constituents of which are the entrepreneur, the search for opportunities, and his / her ability to exploit them, leading to firm creation (Gartner, 2001; Hill & McGowan, 1999; Shane & Venkantaram, 2000). Sources of entrepreneurial knowledge have been identified in experience (Huber, 1991), learning by doing (Gersick, 1997), and networks (Aldrich *et al.*, 1996). Models of organisational learning have been applied to developing enterprises, which may no longer be posited as analytical surrogates for the entrepreneur (Farrell & Sullivan, 2002; Boussouara & Deakings, 1999). Watts, *et al.*, (1998) describes a knowledge overlap of both the personal and business kinds with owner managers - a “super-complex system of evolving experience and learning that is informing horizons, goals, and strategies, sometime subtly and sometimes radically” (Watts, *et al.*, 1998, p. 110).

Whilst acknowledging this shift in the literature, an over-reliance on secondary data, lack of longitudinal study, and theoretical integration in research designs has been criticised (Scott & Rosa, 1996; Oskoui-Jones, 2002a, 2002b). Aldrich and Martinez (2002) have, of course, recommended the evolutionary study of emergence as one suitable response.

Emergence has usually been discussed at the macro, or environmental level. Small or micro firms have been said to emerge in times of recession, when nascent entrepreneurs, through fear of being made redundant, or the availability of cheap capital, decide to start a business (Jones-Evans & Westhead, 1996; Jones-Evans, 1997).

Firms may also emerge because of favourable government initiatives (Rothwell, 1994; Rothwell & Zegveld, 1982). Alternatively, the structure of industry may be reformed by introduction of new technologies, creating opportunities for specialisation (Garnsey, 1992; Oakey, 1994; Vossen, 1998; Ahuja & Lampert, 2001). Few authors have though specifically enquired how small firms emerge at the micro level (Aldrich, 1999; de Berranger, *et al.*, 2001; Greenbank, 2000).

2.3.4. Business management processes

Aspects of small business management have often been researched through application of theory and method first developed in big business settings⁵. As, mentioned previously, micro firms have not been studied to any great extent; however, some authors have researched managerial processes within micro firms (Mitchell, 1986; Bellamy, 2002; Hannon & Atherton, 1998). In contrast to large firms, the majority of small firms are thought to plan at the pre-start up or start up stage to attract finance, but not to maintain (re)search and planning activity (Mason & Stark, 2002; Orpen, 1985). Attributed initially to resource limitations and time pressure (Earl, 2002), this may rather reflect its not being required (Greenbank, *ibid*). Carson and Coviello (1996) have underlined the importance of common sense and gut reaction of the entrepreneur.

Authors have compared the relative strengths of large firms, which lie in their resources, and small firms, whose advantages flow from an ability to be flexible

⁵ It would be incorrect not to acknowledge transfer from small firm studies to strategic management in big business, or, at any rate, an aspiration to it (Mitchell, *op. cit.*).

(Vossen, 1998). It is debated whether procedure, which is tacit and unique to the firm, can be easily captured or copied (Polanyi, 1967; Prahalad & Hamel, 1990). The role of business angels, and venture capital in enabling otherwise vulnerable ventures to develop is acknowledged (Eisenhardt, 1989; Schoonhoven & Eisenhardt, 1992; Allen & Rahman, 1985; Larsen & Rogers, 1988; Mason & Stark, 2002).

The importance of firm networks is established. More diverse networks offer greater access to resources of information (Granovetter, 1974; Burt, 1992). Strong ties, or affectively stronger relationships tend to be more reliable and receive greater investment. A major empirical study has confirmed the return on investment in social capital (Clifton & Cook, 2002). Recruitment may use both strong and weak ties (Aldrich & Von Glinow, 1992; Granovetter, *ibid*; Fernandez & Weinberg, 1997; Williamson, Cable & Aldrich, 2002).

2.4. Opportunity for research

The potential of the evolutionary perspective to resolve paradigmatic conflict has been acknowledged (McKelvey, 1982), and may contribute to a new ecumenism in the field of organisational change (Van de Ven & Poole, 1995; Pettigrew, *et al.*, 2001; Aldrich, 1999). It may also contribute to the resolution of problems of epistemology and methodology in the small firm and entrepreneurship literature (Davidsson, *et al.*, 2001; Low & MacMillan, 1988; Bryman, 1988; Steyaert, 1997; Shaw, 1999; Douglas, 2002; Grant & Perren, 2002). There is an opportunity to extend the locus of empirical research in organisational evolution studies to the emergence of micro firms and entrepreneurs. Investigating where variation, retention, and selection may reside in the micro firm

setting, with respect to multiple units of selection, may suggest whether organisational, and entrepreneurial processes are *analogically* or *actually* evolutionary. This will also contribute to the theorising and investigation of change in small and micro firms, which to date has been dominated by developmental approaches, and concentrated on successful, rather than less successful, or failing organisations.

CHAPTER 3 - THEORETICAL DEVELOPMENT

3.1. Introduction

In the previous chapters, the idea of an evolutionary algorithm was introduced, particularly in relation to the field of organisational evolution. Combined with a survey of areas of the small firm literature, an opportunity for research was indicated. A model of the evolutionary algorithm is now elaborated, which, in chapter five, is used in empirical investigation of the micro firm setting, through qualitative interpretation of four case studies.

Developed through the course of the study, as described in the next chapter, aspects of the model are described with reference to points of departure in the literature, where appropriate. The units and levels of analysis and key constructs of the organisational universe are described in the next sections. The concept of a unit of selection is explained as the constitutive processes of evolution are discussed. In the last section, the workings of the evolutionary algorithm are explained in relation to three such units. A glossary of terms is provided. The model is evaluated in chapter six by reference to the qualitative analysis in chapter five.

3.2. Theoretical framework and model

3.2.1. *Units and levels of analysis*

As has already been indicated in the previous chapter, a number of different units and levels of analysis have been proposed as fit, or used. Multiple units and multiple levels of analysis have similarly been used in co-evolutionary studies (Staber, 2001; Van de Ven & Grazman, 1999; C. Jones, 2001). It is not everywhere clear however that these terms have consistency of meaning. Here, two clarifications are proposed. First, it is clear that by a unit of analysis, a number of things may be meant - in Patton's phrase, "[anything] that [the researcher] want[s] to say something about" (1987:51). Insofar as it is possible that certain units of analysis may be considered subject to variation, retention, and selection, whilst certain others may not, it is therefore possible that not all units of *analysis* qualify as units of *selection*, so defined. This distinction is developed below. Second, it is possible to identify inconsistencies in usage with respect to units and levels of analysis. It is suggested here that these two notions require conceptual separation.

Here, the unit of analysis is one of the units of selection proposed in this study as the analytical unit or thing subject to variation, retention, and selection forces, and therefore subject to evolution. These are the *entrepreneur*, the individual responsible, at least in part, for the founding and management of an independent organisation; the *organisation*, as bounded entity; the *habit* or *habits* of the entrepreneur; and the *routine* or *routines* of the organisation, in question. These terms are developed below. Though

population is sometimes given 'unit character' by population ecologists (e.g., Hannan & Freeman, 1989), it is not deployed presently.

Level of analysis is used rather to express the depth of field in which the unit of selection is considered, whether as an individual exponent, a population, or a class. An exponent level of analysis addresses a single instance of the unit (e.g., this organisation). A population level of analysis addresses the set of all such units, based on a principle of definition (e.g., all such organisations in the environment specified, perhaps industry, or region). A class level of analysis addresses all instances of the unit (with no necessary spatial or historical qualification). A unit of analysis may be considered then at the exponent, population, or class level. Selection, in terms of the overall transformations of a population - and evolution, in this sense - necessarily occurs at the population level. Selection impacts exponents, and, over time, effects a transformation of the exponent population.

Following on from that, multi unit analysis may be considered a technique whereby more than one unit of selection is considered complementarily in an analytical project. A single level of analysis may be addressed, or many levels of analysis may be addressed in respect of each unit. Conversely, multi level analysis may be considered a technique whereby more than one level of analysis is considered complementarily in an analytical project, whether in respect of single or multiple units.

3.2.2. The organisational universe

This study posits a universe of environments populated by organisations and people, and their routines, and habits respectively. The meme is not posited as a unit of selection in the present study. Whilst the role of genetics in evolutionary biology is accepted, that played by a second unit of replication - the meme - in social and cultural evolution is vastly less established. It is, of course, possible to develop a model of the evolutionary algorithm and to derive exemplars of evolutionary change in an empirical organisational setting, without invoking, mobilising or even searching for this as yet unproven entity. Environment may be considered the environment, surroundings, or setting of organisational and individual life, and then includes those populations of organisations and individuals, as well as their routines and habits, in addition to physical structures. Units of physical environment are artefacts. Discontinuity in the state of part of or the whole of the environment is change.

People populate organisations and environments, and - as free agents - assume, occupy, and perform roles, having identity, where identity is the role assumed by the free agent in the analytical context. Agents may have multiple identities (Aldrich, 1999). One such identity posited here is entrepreneur, the role of at least, in part, founding and managing an independent organisation. Entrepreneurs may be considered to have structure, and to exhibit or express behaviour(s). Structure is what may be said to be constitutive of the entrepreneur, in part, generative of his behaviour, and includes his nature, character, potentialities, energy, knowledge, skills, and habits. Habit is an at least conceptually discrete subset of this structure, a durable, rule-like propensity or disposition, giving

rise to specific behaviour(s) in particular circumstances (Hodgson, 2003) and may comprise a set of units of cognitive and procedural memory, residing potentially in the entrepreneur, in artefacts, and in their configuration. The habits of the entrepreneur - his ways of doing things, his methods or *modus operandi* - are then a durable part of his makeup. Behaviour is rather the transient expression in action of the entrepreneur, and an outcome, in part, of such generative structures (Hodgson, *ibid*).

Organisations populate environments. Organisations or companies are goal directed, boundary maintaining, socially constructed systems of activity (Aldrich, 1999:2). Like entrepreneurs, organisations have structure, and express or exhibit behaviour(s). Structure is what may be said to be constitutive of the organisation. It is durable, and, in part, generative of its behaviour. Similarly, it includes all its dispositions, potentialities, propensities, energies, knowledge, skill, characters, and routines, residing in the multiple human and physical resources which compose it, and arising from their present organisational configuration (*i.e.*, its form). Routine is an at least conceptually discrete subset of this structure, and may comprise a distributed set of units of cognitive and procedural memory, residing in a group of organisational members or participants, in artefacts, and in their configuration. Routines are not merely the shared habits of the individuals within the organisation, but ontologically distinct 'metahabits', existing on a "substrate of habituated individuals" (Hodgson, *ibid*: 374). Routines - the organisation's ways of doing things, its methods, or *modus operandi* - are then units of a durable structure. Behaviour is again the transient expression in action of the organisation, and an outcome, in part, of generative structures (Pentland, 1994; Cohen & Bacdayan, 1996; Hodgson, 2003).

3.2.3. Defining evolution and the unit of selection

As has already been indicated, evolutionary theory in the organisational domain has not always or everywhere been consistent or straightforward with respect to questions of the constitutive processes of evolution and the unit of selection. Aldrich's conception of evolution, Campbellian in origin, specifies the condition of struggle, or competition as required, in addition to blind and intentional variation, ('selective') retention, and selection, if evolution is to obtain. Bounded entities and routines are here said to be the most commonly observed units of selection. However, it is not immediately obvious how a condition of struggle, competition, or scarcity might apply in the case of habits or routines. For that reason, 'struggle', or 'competition' is not specifically required here, though it is acknowledged that, in respect of a legitimate unit of selection, it must be possible to conceive of circumstances in which it may not continue, survive, or persist as structure.

Equally, presentation of constitutive evolutionary processes has not been unambiguous. Variation has been described as deviation from routines, competencies, and forms. A distinction between competencies and routines may compare to that between structure and behaviour in this study, but it is not clear whether deviation affects competencies and routines in the same way or at the same time. More, *variation between* organisations, as well as *within* organisations has been described (Aldrich, 1999). Retention has been described as the means by which selected variations are continued: that is, by inference (rather than through exposition) the means by which the

characteristics of the unit of selection are continued, it being selected. Treatments of selection have focused on differential elimination of types of variations (again, by inference, exponents of a unit of selection), distinguishing forces affecting routines and competencies as internal or external to the organisation. It is not everywhere clear that selective forces must consistently be exogenous to the unit of selection (Aldrich, *ibid*). Not defined explicitly or specifically in respect of a unit of selection as such, a number of subsequent and parallel studies, based on such an approach, arguably present a similarly ambiguous picture of evolutionary processes (Lovas & Ghoshal, 2000; Freel, 2000). What is constitutive of evolution? Which forces or actions are necessarily or by definition required? In respect of what? What is the unit of selection? What may qualify as a unit of selection?

This study proposes that questions of the unit of selection and the constitutive processes of evolution may be resolved by explicitly defining each in terms of the other; in other words, a circular relation is specified between the posited unit of selection, as exponent and population, (the unit of analysis conceivably or demonstrably subject to variation, retention, and selection), and the constitutive processes of evolution (the complex of forces conceivably or demonstrably acting upon the unit of selection, as exponent and population). Completing a description of a model of the evolutionary algorithm is then reserved for the next section, where it is done *specifically* in respect of three units of selection. A glossary is provided in support.

3.2.4. A model of the evolutionary algorithm

The organisation evolving

Organisations are a legitimate unit of selection. Organisations are subject to variation, and retention arising both from within (endogenous variation and retention), and from the environment. Elements of structure are varied, altered, reformed, and modified, or continued, maintained, kept, and sustained, and give rise to behaviours in specific contexts. Variation, and retention, may arise from intention, consequence, or in combination. Selection resides in the set of forces by definition exogenous to the organisation, causing *it* to persist, continue, or not (and not merely units of its structure). Organisations may disband, fail, be broken up, dissolved or liquidated. Selection impacts the exponent, and, over time, effects a transformation of the exponent population.

The entrepreneur evolving

Likewise, entrepreneurs are modelled to evolve. Actors or agents assuming this identity have durable structure, and exhibit behaviour. This structure is subject to variation, and retention, initiated by themselves (endogenous variation and retention), or arising from within the environment, which includes the organisation managed and founded by the entrepreneur. Elements of structure are altered, or sustained, giving rise to behaviours in specific contexts. Again, variation, and retention, may arise from intention, consequence, or in combination. Selection resides in the set of forces by definition exogenous to the entrepreneur, causing *him / her* to persist, continue in the role/identity or not. Entrepreneurs may succeed in their projects, survive, fail, or turn to other things. Again, selection impacts the exponent, and over time, effects a transformation of the population of entrepreneurs.

Routine and habit evolving

The relation of habit to entrepreneur, and routine to organisation has been established. Both, as units of structure of the organisation and entrepreneur, are also seen to evolve. Habits and routines are posited as structures. Elements of structure, of habits and routines, may then vary, or persist. The possibility of *endogenous* variation, or retention in respect of habits and routines fails to arise, and has, in fact, little meaning. As has been indicated, habits and routines may reside in entrepreneurs, actors, agents, and organisations, in artefacts, and in their configuration. A habit or routine requires those conditions in which it is enacted to persist. Once again, selection impacts the exponent, and over time, effects a transformation of the population of habits, or routines.

Evolution, and co-evolution or multi unit evolution

Evolution may be seen as the process by which a population of units of selection changes through time, from state A to state A', its exponents each subject to variation, retention, and selection. Evolution occurs through the continuous, simultaneous, and recurring action of these processes, applying to multiple units of selection, and levels of analysis, across a range of timeframes (Aldrich, 1999). Organisations, entrepreneurs, routines and habits may then be seen to evolve as units.

A multi unit study will necessarily consider multi unit evolution, or co-evolution, perhaps within a single organisation, industry, or region. The value of such approaches

has been acknowledged (Van de Ven & Grazman, 1999; C. Jones, 2001; Pettigrew, 2001; Vromen, 2002).

Glossary

Artefact; a unit of physical environment.

Behaviour; the transient expression in action of organisations and entrepreneurs: an outcome, in part, of generative structure.

Change; discontinuity in the state of part of or the whole of the environment, as distinguished from variation in the unit of selection.

Endogeneity - exogeneity; qualifies cause, action and effect in relation to the boundaries of the unit of selection, where appropriate. Habits and routines, though notionally discrete, are not conceived as necessarily having a boundary in the present study.

Entrepreneur; an identity assumed by the free agent or social actor. Subject to variation, and retention arising from within, and from the environment, where environment includes the organisation. In a compositional relation to organisation. See rule of composition. Entrepreneur has not previously been widely admitted as a unit of selection, but in the extent that variation, retention, and selection may be demonstrated in relation to it, may be so.

Environment; the environment, surroundings, or setting for the unit of selection, by definition exogenous to it.

Evolution; the complex of forces by which a population of units of selection changes through time, from state A to state A', its exponents each subject to variation, retention, and selection. Evolution occurs through the continuous, simultaneous, and recurring action of these processes, applying to multiple units of selection, and levels of analysis, across a range of timeframes (Aldrich, *ibid*).

Exponent; the individual unit of selection (e.g., this organisation).

Free agent; social actors - people - who are capable of assuming identities.

Habit; a set of units of cognitive and procedural memory, residing in individual free agents, in artefacts, and their configuration. Habits are conditional, durable, rule-like propensities or dispositions, giving rise to specific behaviour (s) in particular circumstances. A unit of structure of the entrepreneur, or free agent. Distinguished from routine. Subject to variation, retention and selection. In a compositional relation to entrepreneur, actor, or free agent. See rule of composition. Identical to routine where entrepreneur is identical to organisation, or where entrepreneur may represent organisation from point of view of routine.

Identity; the role assumed by the free agent in the analytical context. Agents may have multiple identities in relation to the unit of selection. For example, a free agent is both a member of staff, and a labour market resource. This accommodates the sense in which there can be said to be both exogenous and endogenous elements within the boundary of the organisation (Aldrich, *ibid*). Organisation members, as free agents, are exogenous to the organisation, and, by choosing to work and continue as such, can be said to be one facet of its selection.

Intentionality - consequentiality; qualifies cause, action and effect in relation to whether or not it arises through intention or consequences. Actors, entrepreneurs, free agents, and, through the rule of composition, organisations, may be sources of intention.

Level of analysis; the depth of field in which the unit of selection is considered, whether as exponent, population, or class. An exponent level of analysis addresses a single instance of the unit (e.g., this organisation). A population level of analysis addresses the set of all such units, based on a principle of definition (e.g., all such organisations in the environment specified). A class level of analysis addresses all instances of the unit (with no necessary spatial or historical qualification).

Multi level analysis; a technique whereby more than one level of analysis is considered complementarily in an analytical project, whether in respect of single or multiple units.

Multi unit analysis; a technique whereby more than one unit of selection is considered complementarily in an analytical project. A single level of analysis may be addressed, or many levels of analysis may be addressed in respect of each unit. Distinguished from multi level analysis.

Organisation; the organisation, or company, a goal directed, boundary maintaining, socially constructed system of activity (Aldrich, 1999). Subject to variation, and retention arising from within and from the environment. Subject to selection. In a compositional relation to entrepreneur. See rule of composition.

Passivity - activity; qualifies units of selection, and actors (source of action) in relation to the balance of interactions between themselves and their environment. Where the organisation / entrepreneur / actor pursues a course, refusing, or avoiding circumstances and opportunities, the organisation / entrepreneur / actor is more active. Where the organisation / entrepreneur / actor accepts the encounters, opportunities presented to it, it is more passive. Where the effect of action by the organisation / entrepreneur / actor is to change the environment, it is more active. Where the effect is not to change the environment, it is more passive.

Population; the set of exponent units of selection, according to a principle of definition.

Retention; the set of forces and actions exogenous to, and (where appropriate) endogenous to the unit of selection, causing characteristics of its structure to be retained (i.e., to persist, continue). Retention has been described as the means by which selected variations are continued: that is, by inference, the means by which the characteristics of the unit of selection are continued, it being selected. Importantly, here it is suggested organisation and entrepreneur as units of selection, may themselves give rise to (endogenous) retention, whereas routines and habits may not.

Routine; a distributed set of units of cognitive and procedural memory, residing in a group of free agents, in artefacts, and in their configuration. A unit of structure of the organisation. Routines are conditional, durable, rule-like propensities or dispositions, giving rise to specific organisational behaviour(s) in particular circumstances. Routines are not merely the shared habits of the individuals within the organisation, but ontologically distinct 'metahabits' existing on a substrate of habituated individuals. Distinguished from habit. Subject to variation, retention, and selection. In a compositional relation to organisation. See rule of composition. Identical to habit where organisation is identical to entrepreneur, or where organisation may represent entrepreneur from point of view of habit.

Rule of composition; conceptual operation by which the structure and behaviour of an organisation can be said to be represented by the structure and behaviour of constituent actors, or parts, as appropriate, especially in consideration of selection.

Selection; the set of forces by definition exogenous to the unit of selection, causing exponents to persist or continue according to criteria, and, over time, effecting a transformation of the population from state A to state A'.

Social actor; see free agent.

Structure; what may be said to be constitutive of organisations, and entrepreneurs, durable, and, in part, generative of their behaviour.

Unit of analysis; here, the unit of selection.

Unit of selection; the analytical unit or thing whose selection is posited, and which is therefore subject to selection forces. Organisation, entrepreneur, routine and habit are all posited as subject to variation and retention, as well as selection, and therefore to evolution.

Variation; the set of forces and actions exogenous to, and (where appropriate) endogenous to the unit of selection, causing significant variety or variation (discontinuity) in elements of its structure. Following Campbell, intentional and blind variation have been distinguished, approaching the intentionality-consequentiality qualifier described here, in recognition that it may apply equally in respect of other evolutionary process effects. Variation may arise from intention, consequence, or in combination (Aldrich, *ibid*). Importantly, here it is suggested organisation and

entrepreneur as units of selection, may themselves give rise to (endogenous) variation, whereas routine and habit may not.

Figure 1. Glossary

CHAPTER 4 - METHODOLOGY

4.1. Introduction

In the previous chapter, a model of the evolutionary algorithm was described, which was developed through the course of the study. In this chapter, the method, design, and setting of the study, as well as its course, are described. As has been indicated, the starting point for the study was the proposition that an evolutionary analysis of an empirical setting, grounded in primary data, could be produced. In its early stages, a research method and design were determined accordingly, primary data were collected, and analysis attempted.

Significantly, a fully fledged evolutionary analysis, as such, could not be produced, after extensive trials. In response, the research question was refined and focused, and the primary task of the study adjusted to developing a model of the evolutionary algorithm, in part on the basis of the data collected, and to deriving exemplars of evolutionary change in the context of the setting, in accordance with its terms. The results were then evaluated in accordance with predetermined criteria.

4.2. Initial stages

The initial research task was to conduct an evolutionary analysis of a small firms setting within a specified time frame. The starting point for the research was the proposition that a well executed analysis in the mould of the limited number to have been done

previously, in other fields, could indicate the applicability of evolutionary theory to small firm studies.

The web design and Internet services industry in the South West of England - in particular, the Bristol area - was chosen as the setting for the research, and was thought to present a number of key advantages. Gaps in the organisational evolution, entrepreneurship and small firm literatures concerning less successful ventures, and emergent micro firms could be addressed. Toward the beginning of the study, the industry was relatively new, and was buoyed by innovation, diffusion of new technologies and considerable capital investment. The West of England economic area is especially identified with the high technology companies situated along the M4 corridor; it is also recognised as an established graphic design hub. This initially proved fertile ground for nascent Internet-based concerns, with graphic designers and programmers among many to transfer their skills and resources to a new channel of distribution. An expected advantage of the research setting was conferred by its youth - with data articulated through interviews expected to be both more extensive and more reliable in consequence. Risks presented themselves in the vulnerability and volatility of both micro firm and industry (Porter, 1990). There would also be a less established reserve of data and reference material concerning the new industry, and saturation in inexperienced, micro firms was possible. The study - where method required it - would also be exposed to the ability of key participants to articulate their experience.

The research, as such, would be an example of exploratory and applied research (Marshall & Rossman, 1999). Its conduct was expected to have two stages or aspects:

one, in which the meaning of evolutionary constructs in terms of the setting would be established, and one using those constructs to produce a fully fledged analysis. Respective gaps in the organisational evolution and small firm literatures have already been discussed in the second chapter. Previous studies of organisational change have been criticised as acontextual, and oversimplifying change processes which have a complex, holistic nature (Pettigrew, 2001). A qualitative approach would be used in carrying out the first aspect of the research, exploring a range of often implicit and dynamic variables, as has been recommended for the study of small firms, organisational change, or evolution in social systems (Shaw, 1999; Swartz & Boaden, 1997; Stokes, 2000; Culkin & Smith, 2000; Van de Ven & Poole, 1995, 2001; Gersick, 1988, 1997; Aldrich, 2001; Pettigrew, 2001). Through collecting data from the context in which social phenomena naturally occur, understanding which is grounded in the perspectives of participants may capture both interactions between them, as well as the context of circumstances, which may not always be capable of quantitative interpretation (Bryman, 1988; Lofland & Lofland, 1984; Van Maanen, 1988; Calloway, 1995; Miles and Huberman, 1994; 2002). A number of authors have indicated the particular suitability of this approach for management or organisational research (Daft, 1983; Bacharach, 1989; Gummesson, 1991; Remenyi, et. al., 1998; Zikmund, 1994). The meaning of evolutionary constructs was expected then to be grounded in primary data, and would emerge during the course of the research:

"This study begins with the attempt to establish a unit of analysis capable of being studied in each company setting. It is anticipated that identification of the unit of analysis will be completed during the initial course of data collection and examination;

at entry then, only provisional guidelines as to the meaning of variety generation, selection, and retention in micro firms can sensibly be offered. Analysis of evolutionary constructs grounded in qualitative data may therefore be appropriate."(from a draft of the present study, in its early phases)

It was appropriate to use a single industry, longitudinal design. A number of authors have indicated the particular suitability of longitudinal designs for studies of continuous processes at multiple and interconnected levels of analysis (Menard, in Blackmon, 1996; Miller & Friesen, 1982; Pettigrew, 2001). The research used a time frame "long enough to capture the events and process of interest to the observer" (Blackmon, *ibid*: 31). Such embedded designs arguably provide greater richness and multiple perspectives in explaining behaviour (Bourgeois & Eisenhardt in Blackmon, 1996; Yin, 1984).

A number of companies were approached, and, subject to availability, and willingness to comply with the terms of participation, were admitted to the study. Data was collected through an open and unstructured interview style whose conduct, it was thought, would not unduly prejudice participant responses in respect of the evolutionary model. More structure was introduced to the interview cycle in response to points of data thought to be of interest or significance, an approach whose benefits are well documented (Marshall & Rossman, 1999; Coffey & Atkinson, 2000; Cresswell, 1994; Remenyi, 1998; Silverman, 2000; Pandit, 1996). A first round of interviews, each between 45 minutes and two hours in length, was concluded in June 2001, a second by July of the following year. In a majority of cases, a single owner manager was

interviewed, twice per round. In two cases (that of SNM and IG), two owner managers were interviewed, each twice per round. In two cases (SNM & IG), a last interview was conducted in January 2003. Electronically recorded interviews were transcribed. Owner managers were asked to confirm the accuracy of the transcription. Data were analysed for patterns and themes, and provisionally coded for units of analysis, and evolutionary processes. Data were subsequently organised in a proprietary software application, and used to develop timelines (descriptive chronologies of significant events), for the purposes of display, and to aid development of terms.

4.3. Preliminary findings

Contrary to expectations, the meaning of the constructs in the model was not emergent. Use of a proprietary software application to help focus the analysis both provided a valuable means of organising and managing an increasingly extensive database, and, more pointedly, seemed to corroborate this impression⁶. Lines of code - or 'nodes', and the terms of the model, that had, in theory, seemed simple and straightforward, could not be meaningfully resolved in practice. Evolutionary constructs - provisionally based on terms encountered in the literature - could not be grounded. Rather than providing some of the foundations for a fully fledged analysis, engagement with this first stage or aspect of the research task suggested a grounded theoretical approach was not appropriate in the study. Importantly, it suggested that both the terms of the

⁶ The document management and referencing functionality of NVIVO QRS, in both versions, is acknowledged (Bazeley, 1999; Gahan, 1999). It would be remiss however, not to report the significant amount of time and effort lost to system instabilities said to be caused - whether in part or in total - by the program.

evolutionary model, and the use made of them in the literature required clarification, an unexpected but valuable finding, as is sometimes the result of flexible, unfolding research designs (Glaser & Strauss, 1967; Lincoln & Guba, 1985; Strauss & Corbin, 2001; Pettigrew, 2001).

In addition, despite positive early indications, none of South West Economic Region Development Agency, Companies House, Fame, Business Link, or the Chambers of Commerce was able to provide the researcher with substantial quantitative material. In the event then, a fully fledged evolutionary analysis could not be conducted.

4.4. Revised Design

Though such unexpected findings are quite legitimate results of exploratory research, the researcher determined that the primary data that had been compiled, in combination with the literature, could be used to develop and clarify the terms of the model. A discussion of theoretical issues was presented in the last chapter, the result of this dual engagement. Evolution occurs through the continuous, simultaneous, and recurring action of constitutive processes, applying to multiple units of selection, and levels of analysis, across a range of timeframes (Aldrich, 1999). Whilst it is modelled to transform populations of units of selection, whether organisations, entrepreneurs, routines or habits, over the course of time, it is the exponent units of selection that are the immediate objects of variation, retention, and selection processes.

A section of the companies admitted to the study offered a particularly rich source of (qualitative) data. With the focus now the elaboration of a clearer model of the evolutionary algorithm, in terms of the organisational domain, the dataset could also be used to derive actual exemplars of evolutionary change, in the context of the setting, in accordance with its terms, providing a more fundamental approach to the research question : Can evolutionary theory be applied to the study of micro firms? Are social, organisational and entrepreneurial processes *actually* evolutionary? Where do the three pillars of a Darwinian theory of evolution - namely variation, retention, and selection - reside in the social domain?

Four case studies and interpretive analyses were produced, each concerning an exponent unit, or exponent units of selection, using a refined model of the evolutionary algorithm. In order to evaluate the model, exemplars of evolutionary change, and their descriptions, were considered in the light of some pre-determined criteria. No empirically testable research hypotheses were developed as such - except, by implication, that it would prove possible through operations to explore the propositions of the model in terms of the setting. The first criterion for evaluating the applicability of the model was credibility or realism - the extent to which it provided for a naturalistic and sensible description of phenomena.

Two further criteria were developed for evaluation of the framework in terms of analytical utility: the extent to which further enquiry, theory building, and hypothesis generation were supported (Langton, 1984; Aldrich, 1999); and the replicability of analysis (Kirk & Miller, 1986).

The results were then evaluated in accordance with these predetermined criteria.

4.5. Summary

In this chapter, the principles informing the method, design, and setting of the study were described. The course of the research, charting a shift from an expectation that the algorithm would have a grounded-theoretical basis of meaning, to establishment of an *a priori* sense and definition, was described. The suitability of a qualitative, case study approach for the purposes of the present study was discussed. The four case studies developed, with their analyses, are presented in the next chapter.

CHAPTER 5 - ANALYSIS

5.1. Introduction

In this chapter, a model of the evolutionary algorithm developed through the course of the study, is used to describe the emergence of four web design and Internet service companies in the Bristol area, over a four year period. For each of the four companies, a case study is presented, with an analysis in terms of the constructs developed in the model, and consideration of the empirical content specified in relation to those constructs. Each of the four analyses is presented in respect of specified units of selection, in the syntax:

Text [construct (unit of selection)]

E.g., Dave assumed responsibility for project management, and administration [passive, (entrepreneur)].

The terms are explained in the glossary in chapter three.

Excisions have been made at the request of the participants in the study, but where it was felt that omission would exact a cost in meaning, or sense, a surrogate name or identifier has been used instead.

The setting for the empirical investigation is described in section 5.2. The four cases are presented in section 5.3, each comprising a case study, analysis, and summary of empirical results.

5.2. Setting

In the early 1990s the Internet was used primarily for research, rather than as a business tool. Some programmers, designers and marketers were starting to realise the business potential of the web, although as yet were unsure of the delivery mechanism, and were offering rudimentary web facilities to clients. This 'enabling phase', as the period c.1995 - c.1999 became known, saw the rolling out of infrastructure for the commercial exploitation of the Internet; key firms were ISPs, and other Internet based application providers (Keynote, 2003). Such uncertainty is characteristic of new and emerging industry (Porter, 1990).

Programmers were able to offer simple websites using clip art. Designers and marketers, realising the web offered a new channel for distribution of design and marketing productions, were having to find associates (Yorkshire Post, 2003; The Scotsman, 2002).

Early adopting clients were supplied with websites by programmers, who either built the site themselves, or collaborated with designers. The potential of the web started to be widely recognised from c.1998 onwards, and was given a boost with the Dot Com media and city hype. A variety of companies started to offer web design services. With low entry (and exit) barriers, companies were set-up in home offices as well as on a more formal basis. As is characteristic of emerging industries, many web service providers found themselves able to bluff their way into contracts and consequently price and quality varied extensively (The Guardian, 1999; The Scotsman, 1999; Marketing,

1999; Aldrich & Martinez, 2002). This marked the so-called exploitation phase, starting in c.1999, and continuing to the present (Keynote, *ibid*). A range of web services have come into existence, including hosting, content distribution, e-commerce, and online trading facilities (Zinkhan, 2002; Kacperek & Armstrong, 2002).

In late 2000, new business began to dry out, both in the UK, and worldwide, with most businesses already having a website of sorts, and now requiring mere maintenance (Howarth, 2002a). Larger businesses, with large budgets, were now being advised by their marketing partners, who had their own web design facilities, or chosen subcontractors. Small firms, who had invested in a website, were still watching for an appreciable return on their investment (Gray & Lawless, 2002). The Dot Com bubble burst, and although web design and programming service providers were not strictly Dot Com companies, as such, investment and financing conditions became very difficult. Though some nevertheless managed to get backing, many ceased trading during this time. Some were acquired before the downturn; others merged to pool resources (The Irish Times, 2001; Marketing Week, 2001; Internet Magazine, 2002; Howarth, 2002b; Eisner, 2001). *Attachments*, a BBC drama set in the industry reflected its changing fortunes and business aspects.

During this first 'shakeout', some designers and programmers went back to offering their services from home offices - with their lower overheads - and added to the intensity of competition in the marketplace. Those companies least adept at sales and marketing seemingly suffered the most. The companies surviving the shakeout tended to be dependent on one or two large contracts, and were now more vigilant as to

overheads, managing to last through the year. As time went on, into 2001, the priority and the difficulty of getting sales, and of successful networking became clearer still. (Internet Magazine, 2001; The Sunday Herald, 2003). Discretion and control of budgets gradually shifted into the hands of marketers, rather than IT departments, growing in the process (Creative Review, 2002).

5.3. Cases

5.3.1.SNM

Caught in a web

Case study

Beginnings

In 1996, having completed a graphic design course, Ed and Phil chose to move to Bristol, to find work. By that time, Dave had returned from Taiwan, and had started his own IT consultancy company, E-Media, providing programming and IT development services in the Bristol area. Ed and Phil wanted to work as graphic designers, and, whilst drawing benefits, and looking for work, were instructed to attend a business course. Dave had decided to enlist on the same course.

During the course, Ed and Phil met Dave, agreeing to design a company logo for E-Media. Subsequently, with the help of BRAVE (Bristol), a business support agency, Ed and Phil applied for, and were awarded a Prince's Trust Grant, founding their own graphic design concern EnglandArt. Though the majority of their work was print-based, Ed was keen to explore possibilities in new media.

With the gradual growth of awareness of the World Wide Web, and with E-Media clients now asking for more aesthetic productions, Dave began subcontracting design work to EnglandArt. The relationship developed. It occurred to Ed that it might be possible to provide design services to other IT companies, like E-Media. All ten web design companies listed in the Yellow Pages, in the Bristol area, in 1997, were

contacted; all declined the advances, saying such design values did not seem to be among the current requirements of their clients.

Ed quickly identified a possible gap in the market for a true integrated web design service offer. In discussions, Ed, Phil, and Dave considered merging their sole trading businesses into a partnership offering a portfolio of services including graphic design, programming and IT development, as well as web design. In October 1997, SNM was founded.

Growth to incorporation

Ed and Phil continued to work initially from their house, as did Dave. With Phil's departure - leaving to pursue a music career – Ed agreed with Dave to relocate his operation to Dave's house, which was to become SNM's office.

SNM was approached to design and build websites, and to provide back-end database programming. Most such clients wanted SNM to reproduce sites similar to those of their peers, it proving difficult to interest clients in other services in their portfolio. Some simple marketing, in the form of cold calls, was done in addition. A full workload, which they were able to manage, and low overheads, enabled them to save money, for investment in the company. Prospects were good, and some contacts approached SNM with an offer to invest a stake of £100,000 in the business, which was declined through a wish to remain independent.

In 1998, SNM decided to relocate. Both Dave and Ed were familiar with a central Bristol property - the Coach House – part-occupied by BRAVE (Bristol), and discovered immediately available office space, at an attractive price. Initially more than was required, the space easily accommodated their existing operation, allowing for growth. It also presented the partners – through working in the same building - with an opportunity to invest in, and assume directorship in BristolSound, an Internet-based music venture also sited there. BristolSound had two existing directors, a single employee, and was, and would continue to be run independently of SNM.

Ed was still primarily delivering design work. Dave was at once programmer, project manager and responsible for new business and administration. Both Dave and Ed felt the company had become 'proper', thinking of themselves as a more business-like or formalised operation. For instance, new business was researched, approached through cold calls, appointments, and won or attempted, at any rate, through pitched propositions.

In response to both this feeling, and the conflicting demands of these roles, SNM determined to hire programming resource. A personal contact, David, was approached with an offer, and accepted. As workload, particularly database programming, increased, another programmer was retained in the same vein. Dave nevertheless found it increasingly difficult to fulfil both project management and administrative duties, and it was agreed that a project manager was required. Typically, Dave would make contact with prospective clients, and Ed having produced a specification for the design, and programmers an estimate would cost and negotiate the contract. A more traditional, or

formal model of search was used, neither partner having experience of, or personal contacts in relation to the job: advertisements were placed, interviews held, and Russ hired. A receptionist was hired at the same time.

Russ took on internal as opposed to client facing project management tasks, and, realising the difficulties of managing and co-ordinating concurrent projects, achieving timely delivery, and controlling costs to budget, compiled a wish-list of functionality for a software solution. Developed further by Ed and Dave, the programmers, Phil in particular, were tasked to develop an experimental prototype. Browser-based, Task Organisation Management (TOM) enabled everyone in the office to access different areas of functionality. TOM was felt to provide a means of better managing projects, and was taken up with enthusiasm by all staff.

Intended from the outset, SNM was incorporated in March 2000. Although winning repeat and new business, SNM nevertheless noticed a downturn in the industry. Ed, in particular, wanted to review the business strategy, in light of the increasingly technical nature of the contracts undertaken, and with a view to another relocation. Requiring financial, and business input, SNM considered seeking an investor with a non-Internet related background.

New directors, investment, product development

Unwilling to pay consultants, SNM sought to dispose of its BristolSound interest, which was costing some £4000 a month. Although a popular site with surfers, the venture did not generate sufficient revenue to break even, let alone be profitable. A contact made at

a Bristol based forum, was invited to consider taking it on. Clive was a successful entrepreneur with a small business development background. Interested in the investment potential and experience of new media that the opportunity provided, a visit was made, and a due diligence report was produced. Seeing both SNM and BristolSound, at the Coach House, and after performing a similar analysis on SNM itself, he decided to offer to invest in SNM.

Accepting there was synergy between the two parties, SNM agreed to the proposal, which turned the emphasis to developing SNM as a UK brand and development of TOM, in particular. Unable to put in all the necessary investment, Clive recommended Joe, an experienced marketer, as an additional director.

In December 2000, Clive and Joe invested in SNM, becoming partners in SNM, and relocating rent-free to Clive's offices at Fenton Court for one year (part of the terms). The business established itself at Fenton court. Staff were paid their wages (including BristolSound). SNM broke for Christmas.

In January, Ed received a call from the bank, and was informed that the new funds had left the account. Dave had ostensibly used the funds to pay off outstanding debts (NI and VAT), margins having been tight during the year, something which had not been discussed within the business.

Clive and Joe had evidently not noticed these debts - something which caused Ed to doubt their analytical competencies – and were infuriated to discover that their funding

had been used in this way. SNM decided to shut down BristolSound with immediate effect.

A concerted effort was then made to improve the situation. Dave - despite relationships having soured - continued running the business with Clive, delivering services to new and existing clients. Ed continued as SNM's creative director, but now also worked to keep projects on schedule, with Russ, whilst trying to research new product and service offers, and develop new business.

TOM was developed further, and was assigned a considerable amount of programming resource. A sale (licence) to a web design house in Bristol merely began to compensate for this impacted expense (extra programmer), if not the opportunity cost.

SNM had also attracted the interest of a potential partner in developing IPress, an idea for a PR software application conceived by Ed. This company was itself subject of a successful takeover bid by a Swedish firm, which immediately froze all investment decisions.

Decline, liquidation, and dissolution

During the first half of 2001, SNM had been gearing up for a contract to redesign a large Bristol based law firm's website. It is reckoned the contract would have generated enough revenue to support the business for some six months or so. In May, the firm decided to redesign its site in-house.

With this démarche, the directors - having again looked at the financial position, and having agreed and implemented a period of half pay with staff - decided to close down the company in July 2001, and to call in the receivers.

In the aftermath, Dave and Ed were able to continue supplying services to former clients of SNM, but as sole traders. The liquidator duly seized the assets of SNM which included TOM. Each of the directors was liable for the debt of the company

Analysis

Unit of selection: routine [project management]

Project management, as the set of structural characteristics of the organisation, and entrepreneur oriented to the managing of projects, arose as Dave, at E-Media began to undertake work for his clients. Responding to their demands, and those of the projects - some concurrent - Dave (as did, of course, Ed and Phil) conceived and instituted a set of informal processes, as he went, undocumented, and retained in his memory as a way of doing things. These acts of learning varied certain of both his and E-media's characteristics [variation (organisation, entrepreneur); passive (entrepreneur)] that is, the project management process, and its effects.

On meeting Ed and Phil, and, responding to client demands for more sophisticated design [passive (organisation, entrepreneur); variation (organisation)], in beginning to source design from EnglandArt [selection (organisation, entrepreneur)], E-Media varied its capability and service offer [variation (organisation)], also adding complications of

payment to subcontractors, costing, billing, time and materials accounting, as well as such organisational elements as scheduling to the project management requirements [variation (routine, organisation)].

Deciding to deepen the collaboration, Dave, Ed and Phil agreed to merge the two businesses to form SNM. Dave assumed responsibility for project management, and administration [passive (entrepreneur)]. Business grew [selection (organisation)], as SNM began to be known in the Bristol area [change] and the company began to take on staff [variation (organisation); selection (organisation)], initially through informal means - retaining a programmer on a permanent basis, and employing freelance resource on the basis of need.

67: Dave "So that was really the kind of direction I was being pulled in people were saying ah, if you can do this stuff, can you run a website, so that became the direction we went in, and then it seemed to be a good market to go into, there was going to be a lot of demand for that, and I teamed up.... well it was at that point I teamed up with Ed and his partner at the time who were in the graphic design business, because I didn't have design skills, and... so that was reasonably complimentary I had the technical side and they made everything look nice, and that was where SNM actually kind of became SNM."

Though this certainly added to the programming capability of the company [variation (organisation); selection (organisation)], greater volume of work saw a corollary growth

and change in the nature of work Dave was called on to perform [variation (entrepreneur)].

140: Dave " - well ... both... we took on one staff and then it got to the stage where I mean it quickly got to the stage where I was I had to stop doing any production work because I couldn't do the rest of I mean I couldn't run the business if I was if I was producing as well. And also I wanted to get away from the kind of I couldn't really take on the types of technical project that we had coming up 'cause they were they were getting quite you know quite sophisticated and I would have needed a lot of time to get my head round the new technology I mean I could have done it if I had been on my own and doing that kind of stuff but not run a business at the same time. "

142: Simi " What were you doing?"

144: Dave " Everything ,I mean I was doing pretty much everything "

146: Simi " So you were the face of the company? "

148: Dave "I was scheduling work; I was doing the books, I was going out and meeting people, writing proposals"

152: Dave "So at one point we got to the stage where I realised that I had to stop doing a lot of those things "

154: Simi: "Just to go back were you equipped to do these things, did you have or was it pushed on you, did you choose to do it, did you like that sort of thing? "

156: Dave "I didn't particularly have all the skills, but you know somebody had to do it and I was the, of the resources that we had, I mean I think we were probably four at the time, you know it was you know it was it was obviously me who was going to do those things ..."

In 1998, SNM moved to a new location, the Coach House [variation (organisation)]. The company was increasingly identified with its technical rather than design capabilities, which had through development and maturation of the technology [change; variation (organisation)], and the market [change], fallen to more specialised resources within the company. Growth in turnover and overheads expanded the administrative burden, and together with specialisation of knowledge, and the increased level of new business required, tended to isolate Dave [passive (entrepreneur)], causing him to decide, with Ed, to advertise a project manager vacancy [variation (organisation); selection (organisation)]. Buoyed by the sense of being more established, of having arrived, that the move to the Coach House had given them [variation (organisation, entrepreneur)], a receptionist was also hired [variation (organisation); selection (organisation)].

451: Ed "So we were growing SNM from David's house and we moved to the Coach House, and from the point we moved to the Coach house, we were actually growing the business very fast from profit"

Russ - hired as a project manager [selection (organisation)]- was introduced to the internal, or non-client-facing aspects of the work, taking it up, and interpreting it, as it was explained [retention (routine); variation (routine)]. Some innovation was attempted [variation (organisation)] in the form of an online timesheet system, without immediate success; pressures of work continued to build around the role, and the process. Another

programming resource - Phil - was brought in at this time to enhance SNM's delivery capability [variation (organisation); intention].

208: Dave *"...and also ensuring that things got done on time ... just taking you know so that I would produce a proposal and it would say these things have to this is what we're going to do for you, this is how much it's going to cost and we'll do it over the next six weeks; and so Russ who we hired who would make sure those things got done that they got done within the next six weeks and when you know at the appropriate times within that schedule the right invoices went out"*

213: Dave *".. while we were there we did try on a couple of occasions to develop a kind of online timesheet system that people could log what they were doing, particularly for freelancers and part-time people but and we never really managed it until we took on Phil, who has kind of taken that as project and actually developed it and spent some serious time thinking about how it works, designing the database that it runs off and long nights writing code and that has now become a project.."*

573: Ed *"... it was becoming more and more difficult for him (Russ), so we kind of devised this concept of couldn't we have on our intranet some kind of task system where Russ would get a new project come in, he would then split that into tasks and send tasks to different people, they log-in in the morning, open up their intranet put their username and password in and it shows them their tasks for the day. So we started off with this really kind of loose idea - wouldn't that be a nice piece of software just to have on our system, we look around at all the software that was on the market and nothing quite did what we wanted to so we started ..."*

Off the shelf, or third party software was considered as a solution [active], but could not be implemented in the multi platform infrastructure at SNM (PC, MAC, Unix). A wish list was compiled describing the functionality such a solution would require; programming resource - which now included Phil [consequence]- was assigned to the task informally to begin with, before it was made a project in its own right. Considerable effort resulted in the first release of Task Organisation Management, or TOM, and its implementation [variation (routine); retention (routine)].

577: Ed " similar things like MS Project and there are numerous other task management software out there but because we work in a mixed environment platform environment we've got MACs, PC, and UNIX boxes we couldn't actually buy one piece of software 'cause nothing would install on all three"

Amongst the many things it enabled, Russ was now able to assign tasks of work to people, monitor progress, and - with its cross platform, intranet architecture - they could, whether working on PC, MAC, or Unix, do likewise [variation (organisation)]. Used in earnest by early 2000, TOM - contributed to by a number of the staff – was a now visible part, and physicalisation or artefact of a project management process in common [structure].

217: Dave " that has not completely finished but it's matured a lot it's been useful to us, I mean it allows us now to set tasks for people, it's laid the foundations of us being able to work remotely which is quite important for a company like this, and it appears to be generating quite a bit of interest in the people that we've shown it to."

With Dave appearing to remain somewhat isolated, now daunted with the task of strategically directing the business, and Ed's misgivings at the technical turn the business seemed to have taken, guidance was considered. As conditions became more difficult in the industry - a series of mergers, acquisitions, and now insolvencies, and dissolutions was taking place - and with work now drying up [change], the directors agreed to seek to dispose of the BristolSound venture they had invested in on first moving into the Coach House [intention; variation (organisation)]. The overtures attracted a consultant and investor, Clive, who, though declining to buy BristolSound, agreed to offer guidance on a consultancy basis [selection (organisation)]; particularly impressed at TOM, he proposed - with a contact, Joe - to invest in a stake in the business, and join the board as directors [selection (organisation); consequence]. This was accepted [variation (organisation); selection (organisation)]

240: Dave “ BristolSound, that was a major cause of stress for me for quite a long time”.

244: Dave “.. yeah I was working about seventy hours a week at the time and you know not really enjoying doing that much so that was partly why how we got the new directors on, you know again I realised that I was doing I was having to do still too much and I needed to kind of get rid of more of I mean it was like as we moved on it was at each stage as we took on people, you know we took on the development people and that took the development away from me and I could concentrate on managing projects. As we took on somebody to manage projects I could then concentrate on running the business, but you know we got to the stage where I didn't feel that I could

carry on, doing the things that I was doing, I wasn't experienced enough to grow the business."

994: Ed "...we were thinking about growing the company and moving to better premises."

995: Ed "I was keen for a thorough review of the finances and particularly how they cost jobs, I felt our costing was incorrect and jobs were taking too long."

998: Ed "... we started to notice a slow down in work."

999: Ed "...we wanted to grow the company but we didn't have finances or experience, we needed help."

1000: Ed "In Mid 2000 we decided to sell off BristolSound which was not making any money at all."

473: Ed "...So Clive actually came along to look at BristolSound "

493: Ed "...Clive came in and took one look at BristolSound and said 'no, I'm interested in SNM though. I think this has got a great deal of growth potential' and you know the he, I think he, I think he just understood it from the off that what we were trying to achieve and and could see that his skills would fit in"

272: Dave "...we became a limited company last April ? not April 2000, the reason for that was to formalise the structure of the business and make it easier to bring in new partners"

577: Ed "So we decided to do it (TOM) ourselves, and we developed it over about six months and then as soon as Clive and Joe came on they took one look at it and said this is a product, this could be sold,. sold all over the world .So we've been developing it now we've sold it to a design company in Bristol and eventually yes we're looking for a national rollout and then an international rollout for it..."

Relations soured [variation (entrepreneur, organisation)] on the new directors' discovering their investment funding had been used to pay overdue tax and national insurance liabilities. Rationalisation, and reorganisation followed [variation (organisation)], with BristolSound shut down, relocation to Fenton Court as had been tabled as part of the deal, and adoption or implementation of more traditional models of marketing [variation (organisation); active]. A certain level of resource continued to be used to develop TOM as an asset which could potentially be sold - whether to a production company, or a distributor [variation (organisation, routine); active], to little avail, except inasmuch as a licensed copy of the program was sold to a peer web design house [selection (organisation); retention (routine)].

101: Ed "In December 2000 Clive and Joe invested in SNM and became directors."

1014: Ed " that Christmas (2000) employees including Bristol Sound were paid their salary but no bonus and we all went on holidays."

1015: Ed" In January we moved to Clives offices."

1016: Ed " In my opinion this was the point when things started to fall apart. "

1017: Ed "I received a call from the Bank and found out that all the money had gone from the account. "

1018: Ed "In January Dave used that money to pay off outstanding debts (NI and VAT), which he had kept to himself and had not discussed with Ed or the new directors."

1019: Ed "...the new directors were furious, they thought they had made an investment they didn't know they were paying old debts, the investment was development of SNM and TOM."

1020: Ed "I was becoming quite suspicious, why didn't they spot this when they did their analysis."

1021: Ed "Dave was under pressure the new directors want him out. They wanted to make a claim over his house."

1022: Ed "There were a lot of bad feelings."

1023: Ed "...we decided to shut down BristolSound. Andrew and Rachel the editor were made redundant. It was an expense that we couldn't afford."

Refocused around TOM, I Press - a software concept for the public relations industry - and product development and greater profitability, more generally [variation (organisation)]- software typically rolled out to clients was modularised [variation (organisation)] - SNM serviced a shrinking client base until, in July of 2001, the decision was made to call in the receivers.

565: Ed "As soon as Clive and Joe came on board it was a lot more kind of traditional business routes so it was like write letters, ring people, get out there speak to them do it you can't run a business without doing this so we don't have any marketers or PR consultants or any you know kind of people in-house that can do that kind of art so we've got to do it.. so it's something that we've built over the past six months"

590: Ed "Then that leads me onto I-Press, which is the next thing that's been going on. When I was brainstorming when I started to look at the design companies in the area and started to think about approaching them I basically brainstormed everything that was in my world to do with the Internet and that includes all the applications that you use all the websites that you think about what could you do what people aren't doing

and just have this really mad just big scrap of paper with - I had lots and lots of stuff on - and then I brainstormed the markets that I knew which is obviously the design market, marketing, advertising, and PR, which are obviously the areas that I know best. And essentially discovered that PR was in real need of a piece of software that it didn't have, and so I've designed it and developed it and we went down last week to show it to a company that makes software for the PR industry and it was very very positive meeting it looks like we're actually going to get a deal there. SNM's whole business model in many respects is actually changing"

318: Dave "... so we're now we're now we're now evolving you see we're now evolving we're now evolving in a different way again than we would have imagined probably than when you first came to see us because this type of development is taking us into the realms of being a software house"

1034: Ed "... we didn't recover much of the development costs (for TOM)."

1035: Ed " Later we realised had we not have developed TOM further we could have let a programmer go lowering overheads. "

TOM was among the assets listed officially by the receiver, though it could not be sold, and was at once unofficially distributed [retention (routine)].

811: Dave " But yeah the project management stuff I don't know it'll be sitting around on various people's Probably Phil...probably Phil has the most up to date copy of it and he's probably he's probably done some work on it since. "

Summary of empirical results

Routine as unit of selection; selection of routine

Part of the structure of the organisation, routine resides in a set of brains, in artefacts - i.e. physical structures - and in their configuration. Persistence of actor(s), and in some cases, artefacts, are then preconditions for the existence of routine. To be enacted, moreover, routine requires conditions calling for it in the first place, and calling for it to be performed; these conditions - the relations entered into by actors (and artefacts) within the organisation (the environment or environmental niche of the routine), goal oriented activity - and their persistence, are selective of routine. Selection is persistence of the condition, the need, the goal to which action is oriented, arising in the social relations that comprise an environmental niche (organisation), and precondition.

In the break-up of SNM, precondition, and condition are demonstrated; with the ceasing of project management oriented activity in the organisation, and dissolution, the conditions calling for a project management process cease to persist. The routine is no longer performed, the environmental niche giving rise to it, or to its possibility, having gone. However, the preconditions for project management persist, in the set of actors, and in some of the artefacts, in which it resides. Though having gone separate ways, Dave, Ed, Phil, Clive, Joe *et al.*, all those having had an involvement in, and understanding of the project management process, retain some memory of it. In some cases, for example, Dave, the knowledge (routine) will be used again as the conditions for the expression or performance of the routine arises (Bonsai). In others, for example, Phil, those conditions will not necessarily arise (he returns to the nursing profession),

though it is possible to envisage circumstances in which they might. However complete the liquidation, it is clear too that at least one artefact persists, with TOM, the project management software created in support of the routine, passing on into receivership, for sale, and having been sold to another firm, prior to SNM's being wound up. Even without documentation, it is clear that to a certain extent, the routine is physicalised, here, literally, in code. Artefacts then may be a repository of routine.

There are differences in considering organisation, entrepreneur, and routine as unit of selection. Routine is a disposition to act, action, or activity, not an acting, or active agent, actor, or unity. Though it is possible to say that routines have effects on their environment, the sense of activity, and passivity developed in relation to actors cannot apply. Equally, though it is possible to say that a routine may have consequences, or effects, the intended or consequent effect of the act is attributable to the actor(s), not to its action. One is murdered by a murderer, not by a murder.

Variation of routine

As act, or action, performed by actors, within circumstances, behaviour is inherently protean or fluid. With each performance of a routine, actors, the relations between them, and/or circumstances contrive to distinguish it minutely or substantially from the last, though, being done, it is possible to allow that structures (what is in people's minds, or artefacts) remain more or less unaltered. Structure may also be changed. A lesson might be learned, and a variation made in some part of the routine, which will be performed differently henceforth. With the departure of an actor responsible for introducing the innovation, it is possible to conceive that, his contribution (enactment of

a structure in his head) remaining unknown, a routine might effectively be restored to its former state by his departure from the firm. More visibly, an artefact may be developed in support of the routine (TOM).

As Dave, Ed and Phil respectively found E-Media, and EnglandArt, taking on work, each responds by conceiving a way of managing their projects of work. Their collaboration, formalised as SNM, sees Dave take up the responsibility for the goal (managed projects) and the activity oriented to it. In discussions with Ed, and Phil, he modifies what he knows to be an effective way of handling the task (mental structure). Project management exists as an idea, a memory of a way of doing project management, a structure both in Dave's brain, and in those of the other actors in the firm (each with their own understanding, and memory).

Increasing workload, and the limitations of the existing routine causes Dave to make alterations to the way he (and SNM) does project management. Agreeing to hire a project manager, and taking on Russ (who contributes his own experience, memory of how to do project management), Dave explains, and communicates what he knows of problem and solution, as well as the artefacts pertaining to the routine (the layout of the office, the infrastructure, technology, documentation etc).

In turn, Russ has suggestions to make, and so begins a series of efforts by actors, still carrying on with the existing routine, to refine it, and deliver artefacts (tools) in its support. TOM, software supporting the perceived requirements, is delivered, and

implemented, and the new set of arrangements is bedded in. Structure, and the behaviour it gives rise to, is varied.

Throughout, routine - in being transformed initially from a mental structure within a single actor (a habit), to a set of mental structures, then to include a complex artefact, separable from organisation, and actor - is varied. Unlike organisation, and entrepreneur (actor), routine may not vary itself.

Retention of routine

If behaviour is inherently protean, a normalising, or regularising tendency is present in organisation (requirements arise), actor (memory and habit), and artefacts (stable structures). Variations persist through changes captured in structure, whether in people (memory, expectations, habits, social order), or in artefacts (layout of the office, documentation, infrastructure, technology); all such forces causing characteristics of routine to persist comprise retention. Dave communicates his knowledge or conception of routine to Ed, and later to Russ (training, supervision, communication). Other staff - each with a greater or lesser involvement in the routine - come, and go; the status quo in the routine may reflect status quo in the actors, and in their relations too (changing division of labour, tasks, responsibilities).

Workload (quantity) or nature (quality) presents the same, or different requirements of the routine; there is more or less pressure on the actors to deliver using the existing methods. Artefacts - specifically TOM - act as a repository for routine; people come into the office in the morning, and access the facility to understand their tasks of work,

schedule etc, according to a logic designed into the structure; barring intentional alteration through (e.g.) another release, the logic is set - the structure is stable. Selection (of the organisation) may also be retentive, its nature determining pressures on, or around the routine, and the actors involved in it.

5.3.2. 3Sixty

What goes around, comes around, the importance of moving & shaking in the right circles

Case Study

Beginnings

In 1994, having withdrawn from a research degree, Chris began working in his father's marketing business. Having worked there before, he was familiar with traditional models of marketing. During this time, and recalling his experiences as a student of using the web as a research tool, he began to consider its marketing potential.

In response to the perceived opportunity, Chris started 3Sixty, from his daughter's bedroom in Cheddar, Somerset in 1995. At this stage Chris was offering a range of traditional marketing services to his clients, alongside introducing them to the marketing potential of the web. Not specifically skilled to deliver these novel services, Chris, a self-confessed social creature, found himself able to persuade prospective clients, who were unsure of the nature of the technology, and the service being offered - and including some of significant size - to proceed. He subcontracted work both to designers and programmers, with whom he was careful to cultivate relationships.

The 'entrepreneurial bug', capital, and incorporation

Increased competition in the South West from 1997 presented Chris with the decision to continue to work independently, or to perform work on behalf of others. Continuing on, and in need of funding which he was unable to provide, Chris learned about the Small Firms Loan Guarantee Scheme, through a friend. A successful application

resulted in a loan of some £93,000, (of which 85% – 90% was underwritten by the DTI) and enabled 3Sixty to hire an employee, purchase equipment, and with a new Bristol address (Queen Rd.) "bec[o]me a proper company". Queen Rd. was sub-let to a freelance designer, Gill, an acquaintance.

Chris was active in the Bristol small business community and, with several other directors of local businesses, started a breakfast club. Chris attended business courses, Chamber of Commerce events and other business related functions in Bristol, seizing upon what appeared to be opportunities to make valuable contacts.

In February 2000, 3Sixty became a limited company. Freelance designer John (whom Chris had recently met, and persuaded against joining another partnership) became a director, taking shares in the newly incorporated business. The move merged their skill sets, enabling 3Sixty to offer an end-to-end service, and to pool both human and financial resources.

Networking and planning

Chris had confidence in the capability of the team, and no trouble in quickly delegating or deferring to appropriate authority. Continuing to exploit a natural ability to network, he developed the brand and gave the company a high profile in the Bristol area: Chris was being consulted at the breakfast club he had co-founded, at the Chamber of Commerce, and at First Tuesday West, on web marketing. That was not all. As a complementary means of achieving leads and developing relationships, after meeting

Donovan (an accountant turned IT consultant) at an event hosted by KPMG (Bristol), Chris agreed to offer his client base a free audit, which would be delivered by Donovan.

Throughout, both Chris and John had intended, aspired to, and, to an extent, been able to plan, the development of measurable goals, which, in their being worked towards would provide a means of keeping the business on course. In particular, deeper, and sustained relationships with larger clients were sought, which it was considered would enable 3Sixty to provide a fuller range of new media services. As such, these relationships would also afford protection against business and investment cycles.

Battening down the hatches

Like many in the field, 3Sixty was starting to post losses, and looked to larger contracts, and refinancing to stay the course. Gill decided to restart her own independent company 3Sixty Design Ltd, which would provide services to 3Sixty, amongst others, inhabit the same space, and give the appearance that nothing materially had changed. Importantly, Gill continued to manage the finances.

Staff, retained in expectation of the award of two contracts which had been lost, now had to go, something that Chris found personally very difficult to action. It reduced 3Sixty to a core of three: Chris, responsible for new business, networking, and project management; John, responsible for design, with some programming; and Benj, who assisted with programming.

Plans, and planning gave way to need; 3Sixty was turned into a “money making machine” by accepting any work that it was offered (whether large or small, Internet marketing related or not), for some fourteen months, to stay out of the red, or, at any rate, keep levels of credit within agreed limits. Both directors contributed their savings, not drawing a salary for months. Work rate was greatly increased.

Coming full circle

In the early autumn of 2001, after two significant contracts had been lost in the space of ten minutes, a personal contact at Studio 6 - a design house - offered John a contract to deliver a multimedia production (CD-Rom). Without in-house capability, and familiar with John's work, Studio 6 had equally been impressed by Chris' evident understanding of the agency relationship. The work paid well; the source clients were blue chip companies. The funds were used to restore the company to financial health.

More significantly, the contracts paved a way forward, providing a springboard into a niche area of work. The luxury of being able to think more strategically about the business was restored, Chris recognised the work with Studio 6 - supplying CD-Rom type work, more generally, to an underlying Blue Chip client base - marked a return to his original vision of the business. 3Sixty had come full circle helping businesses make use of the web as a marketing tool, and realise its inherent marketing potential. With both a proven web marketing capability, and an ability to communicate its own brand, and with responsibility for web implementations having ostensibly passed from IT departments to marketing departments - with the corollary growth in budgets - 3Sixty seemed well placed to exploit a niche.

Chris identifies new media with the film and creative industry model, whereby a small core of skilled people are retained in-house, whilst specialist skill is subcontracted on an *ad hoc* basis, enabling ease of co-operation in complex multi agent relationships, and certain economies of operation, if not of scale. He suggests that one reason 3Sixty may have proved more persistent than competitor outfits, in coming through adversity, is the nature and level of his, and John's commitment - their livelihoods, and families having been at stake.

Analysis

Unit of selection: organisation, entrepreneur

Deciding not to continue with academic study [intention]- which had exposed him to the web at an early stage in its development - and equally deciding not to continue working in his father's marketing business [intention], Chris perceived an opportunity to offer marketing-led web services to companies, during the first stages of its commercialisation [change]. Motivated to provide for his family, as well as to work in an area of marketing, Chris worked from home to deliver traditional marketing advice to businesses [selection (organisation, entrepreneur)], but always trying to introduce clients to, and persuade them of the marketing potential of the web [change; active; intention].

34: Chris “ eight years ago I was doing a PhD in the politics department in Bristol, it was at that point that I became aware of the Internet because it was being used as a

research tool. For various reasons, I gave up my research and went to work in marketing for about a year, so I was kind of in a position at '95 to see both the marketing side of life and also be conscious of the fact that you know particularly the world wide web was becoming a commercial medium. So really it was seeing those two coming from those two perspectives that I realised there was probably an opportunity to set up a company that was not technically led but was more marketing driven or business driven, if you like that was going to sort of talk about, talk to companies about how you exploit the Internet for marketing purposes, so I I didn't have any capital or money behind me so I just kind of set the business up on my own working out of my daughter's bedroom in Cheddar in Somerset in the beginning of 1996 and that's really how it started. “

As commercialisation proceeded, and with increasingly low entry barriers, and more intense competition in the supply of web services [change], Chris evidently considered two courses of action [active]: namely, 'cashing in' on his experience, in taking a job, and performing a fee-earning advisory role; or continuing alone, which would call for expansion, changing the nature of his operation. Having 'caught the entrepreneurial bug' [variation (entrepreneur)], he decided in favour of the latter [active; intention]. Having insufficient funds to start up, Chris conducted a search [active; intention] for capital, and learned about [variation (entrepreneur)] the Small Firm Loan Guarantee Scheme through an acquaintance. He made a successful application [selection (entrepreneur, organisation)]. The finance enabled Chris to secure tenancy of a Bristol office in Queens Rd. [variation (organisation); active], which he sublet to another acquaintance [selection (organisation, entrepreneur)] - Gill, a graphic designer with whom he had

collaborated extensively over the years he had worked from home and with whom he continued to collaborate - as well as the services of an employee [selection (organisation, entrepreneur); variation (organisation)].

56: Chris “ However, '97 and '98 a lot of players came into the marketplace a lot of people realised you know that this website design stuff was probably going to be quite lucrative at least they hoped so, and because the barriers to entry and setting yourself up as a web development new media company are pretty low, I mean you only need a computer, a bit of software and a modem and you can call yourself a web company .. lots of players came in.. some of which were reasonably well resourced and able to .. you know either they were offshoots of other companies or that they had some investment in them or whatever.. so it became increasingly obvious to me through '97 and '98 that there was more competition and that I couldn't that I couldn't, I couldn't stand still, I couldn't accept the status quo I had to I either had to move the business forward from where it had started from which was like a good idea and had gone down fairly well but hadn't really grown it had just stayed as me, or I had to kind of give it all up and kind of go and work for someone else which I probably could have cashed in my experience and gone and got a good job with someone else. So I gave that quite a lot of thought particularly in the early half of '99. what do I want to do, where do I want to go? And came to the conclusion that I didn't want to work for anyone else that basically I'd got the entrepreneurial bug and I don't like working for anyone else.”

56: Chris “I looked around at how could I grow my company without having a wealthy father or particularly wealthy father or sitting on loads of cash that I could put into the business. I actually met someone it's an ex-friend of a friend from university who was.

who had had his own business a bit longer than me, two or three years longer in London and I met in a pub in London when I was up there doing some work and he, and I told him about what I was doing and he was interested and he told me about something called the Small Firms Loan Guarantee Scheme that he had used with his business which is a scheme whereby you can borrow money from the bank and 85-90% of that is underwritten by the DTI which sort of thought well great you know that looks exactly what I'm looking for so basically I, cut a long story short I rewrote my business plan in the sort of autumn of '99 got money from the bank got about £93,000 from the bank and used that to put into the business to with the aim of trying to grow trying to grow it and you know take it from just being me into a business that's growing an actual proper company rather than just me being the self employed freelance person effectively so that that kind of happened.. I took on my first employee in December '99 and I the money came into the business in the early part of 2000 and we've kind of taken it from there that enabled us that money enabled us to move from North Somerset to Clifton here invest in you know the infrastructure this office and the IT equipment etc. and I've subsequently taken on three additional staff."

193: Chris " well, Gill sublet it from me as soon as I moved in here and I'd always I'd used Gill as one of my freelance people that I'd subcontracted design work to over the years so I'd I was well aware of Gill I liked Gill I got on well with Gill."

Established in Queens Rd., Chris used the location to network extensively [active; intention; change]. Continuing to manage, and deliver services to clients, Chris marketed himself and his company diligently [change]; he inaugurated a monthly breakfast club, and became its e-business advisor [selection (entrepreneur,

organisation)] - which would grow to include some two hundred local small business/industry heads, and representatives from the Bristol Chamber of Commerce [selection (entrepreneur, organisation)]; he took responsibility for the web infrastructure of First Tuesday, the leading monthly industry forum, when the company that had provided the service had pulled out [selection (entrepreneur, organisation)]; he made a modest contribution to the City of Culture campaign bid, a *cause celebre* in the region [selection (entrepreneur, organisation)]; and he gave free seminars on web marketing to small businesses [selection (entrepreneur, organisation)]. As such, he institutionalised 3Sixty's presence in the small business and local government environment [active; intention; change].

338: Chris “ *I actually got this advertising agency involved because I run this thing called the premier breakfast club... which I may have mentioned to you before* no ?

339: Simi “ *no ?* “

340: Chris “ *it's it's a I'm doing it I was asked when I first set up my business I was on this course and I met a couple of people it was like five and a half almost six years ago and I met a couple of people on this course who were setting up their own business at the time and I kept in touch with them and they got involved in this thing called the premier breakfast club which was just a sort of networking sort of business support meeting for people that run, ran, run small businesses and they asked me if I wanted to come along and give them a talk on the Internet that was about four and a half years ago which I did and at that time there were only about fifteen people used to come to the meetings and it was kind of going nowhere really so they kind of collared me to come along to their AGM office club and then I kind of got co-opted onto the committee*

that run it to be the sort of marketing expert and anyway I just did some various simple things like get their database mailing list sorted out .. and stuff like that. Anyway five years later I'm the only person left doing it and it's now there's about 120 people come a month..”

342: Chris” small businesses but you know a real cross section mainly businesses based in central Bristol BS8, BS1, owner managers sort of senior people in companies ... so it means I get to meet quite a lot of influential people in Bristol like the Chief Executive of the Chamber of Commerce or the marketing director of the Airport or the MD of Aardman Animations those kind of people sort of movers and shakers in Bristol so I pick up on quite a few things that are going on and I picked up on the grapevine that the City Council was looking to appoint an advertising agency to handle this City of Culture Bid and so I kind of passed that lead on to JPH who I've been kind of trying to sweet talk for quite a while to get some work out of them “

Chris both desired not to continue working alone, and perceived advantages for 3Sixty in an end-to-end service capability [active; intention; variation (organisation)]. Encountering another designer, John, in the course of a job, and impressed at his competence, and attitude, Chris persuaded him against joining another partnership [active; change] - his preference, at the time [active; variation (organisation); selection (organisation, entrepreneur); intention]. Chris and John would each bring clients, and capital to the business. Gill their friend and tenant - would provide financial management, and discipline, to boot.

56: Chris *"in the last few months I've merged my company with two other freelance people who have joined the company as directors and taken a shareholding in the business 'cause I got to the point where I realised that I couldn't I couldn't do it all on my own I needed I needed some other people to to help me take it forward"*

193: Chris *" John I met about a year and a half ago - we pitched for the same project the client wanted to use both of us asked us if we both"*

400: Chris *" Gill had by this point sort of set up her own had gone back to having her own business called 3Sixty Design Ltd but it's effectively something that she runs on her own but sort of part of to the outside world it's sort of seen as part of the of the system."*

200: Chris *" why did I bring them (John as partner in Business and Gill as tenant and contributor to 3Sixty) in? One they had their own clients obviously 'cause they had their own businesses obviously they had their they had expertise and knowledge of running their own business and understood what that's all about. Also I needed other people people with experience of calibre to be able to complement me"*

201: Simi *" what expertise did they bring in?"*

202: Chris *" .. graphic design expertise obviously the user interface design which is obviously a key part of what we do.. that is that is you know one of the key selling points of the company and so I needed I didn't want to go out and recruit someone straight off and have to pay them £35-40,000. Instead I get I've got I managed to get two sort of experienced and high quality graphic designers who more or less able to pay for themselves to begin with because they had their own businesses which are paying their salaries"*

Chris sought access to decision makers through additional means [variation (organisation, entrepreneur)], requesting - and getting [selection (entrepreneur, organisation)]- an introduction to an e-business consultant (Donovan) at a KPMG conference. It was agreed that Chris would, through 3Sixty, broker IT audits - which would be free at the point of delivery - providing the newly freelance consultant with a commission, and 3Sixty with access to prospects, and another pipeline (the work audits suggested was required) [change; active; intention; variation (organisation); selection (entrepreneur, organisation)].

352: Chris “ I met I went to a some an evening organised by KPMG and at that meeting I met one of their sort of consultants a woman called Jo and sort of chatted her up in a purely professional way of course and she then put me in touch with this chap called Donovan who at that point was employed by KPMG as their sort of e-business chap Sort of trying to encourage businesses to look more at doing e-business. So I had lunch with Donovan. We hit it off got on well he's not a traditional sort of accountant type person and it was obvious at the time that he was pretty frustrated at KPMG that it was a bit limiting and that they weren't allowing him to do what he really wanted to do anyway it transpired a couple of months later that he sort of mutually agreed to leave KPMG and to set up as a freelance consultant so he approached me to say you know could he sort of could we tie up really 'cause he needed if you like to find a company that he could help that could help sort of actually implement some of the ideas he's got for companies and obviously we need someone to help us on the sort of upfront consultancy side”

371: Chris “ we had several meetings and brainstormed and looked at you know what what synergy there is between us what skills we've got and then thought about how we could actually go about getting our foot in the door at companies and interestingly.. I'd also been talking to my father who is a marketing person about how we can get more business 'cause we need more business at the moment and he actually sort of independently came up with the idea of doing this yeah. So he sort of said have you thought of doing like an audit and I said well funny you should mention that.. that's actually so he's actually my father is coming in this afternoon and Donovan's coming in and we're going to sort of flesh this out a bit more And then start doing some telemarketing and actually ring up companies and make them give them you know say would you be would you be interested in this completely free thing ?

375: Chris “I don't think we really discussed any other ways of 'cause the main thing is you've got to get a foot in the door at companies You've got to have something that gets you in there so you can start a relationship with the key decision makers you know this seemed you know in that it's very difficult to get into companies and talk to them as an icebreaker you know and you're offering something there's a you know there's no obligation on companies to do anything they can this thing and then leave it at that if they like but it just and given I've got time to do it he's got time to do it it's a sales overhead and we're both prepared to put the time in to do it. So yeah it was a bit of a no brainer, really I mean obviously we'll need to see how it goes we haven't done one yet and we've not seen what the reaction's going to be ”

Taking on four staff [variation, selection (organisation)], and hiring freelance resource as and when it was needed [variation, selection (organisation)], 3Sixty continued to

produce what clients demanded - in the main websites, and e-commerce infrastructure [selection (organisation)].

Consulting the 3Sixty business plan - still very much in evidence [active], early 2001 called for an injection of capital, and investment in marketing, and training. No such thing was possible, as the severity of the downturn in the industry became apparent [change].

379: Chris “ I suppose the only other thing to tell you about is the fact that as a result of finishing our business plan it's become obvious to us that we in order to grow the business more strategically than we're able to rather than just being tossed on the seas of serendipitous fortune ... sound like a poet or something, don't I? Yeah but we we need we are looking at the moment to find some additional investment into the company to allow us to sort of grow a bit more in terms actually find the customers we want rather than having to work wherever the work happens to turn up ... “

380: Simi “ so you've got a particular idea of the ideal customer?”

381: Chris “ well I think we haven't quite refined that yet But I think part of that is part of the challenge for the next three or four months is to work on being really clear about what type of customer we want I think we're we're getting a clearer picture I think actually this digital audit thing is going to help us do that 'cause it's actually going to be in some ways a market research exercise as well as a potential business getting exercise But we need to be do need to sort of home in in on exactly who we want to talk to. Because that's what all companies have to do. You know when you're that's just the basics of marketing really. Unless you've identified who your customer is

you'll waste a lot of money spending getting your message out to the wrong people it's very much a marketing thing because clearly we need to find companies that we are the right size, we have the right offering for them and they're the right size and have the you know right offering for us it's like you know like a marriage really there's no point us trying to get a really really big one really big client 'cause that wouldn't be a good fit or and similarly there's no point in us having lots of really small companies as clients"

385: Chris "well it's not there won't just be you know the final outcome of this won't be saying it's companies that are fifty people hundred million pound turnover there'll be maybe two or three types of company that we want you know like we sort of it might be high growth businesses in a certain sector. You know more established businesses in another sector I mean I don't know yet"

Gill continued to sublet Queens Rd and to provide financial management. With work hard to come by in the field, Chris called a crisis meeting, acting to immediately reduce overheads, by making staff redundant [variation (organisation)], and fully leveraging the network cultivated over the last few years. With the aim of keeping the overdraft within agreed limits, and avoiding insolvency - a maximum was put in to the business - all and any work was undertaken - and a minimum taken out; the directors would not draw a salary from late spring to the early autumn [variation, (organisation)].

535: Chris " Gill... Gill kind of got control. John and I we it was a bit like watching a car crash my business eighteen months ago in that I couldn't look at the accounts"

539: Chris " I couldn't I just didn't want to know 'cause it was like so horrific what was happening that I kind of buried my head in the sand and I didn't want to know and Gill

Gill kind of getting control of that side of things and being very strict with John and I about what we could spend money on and what we couldn't definitely helped. You know we definitely got control of our costs not only our labour costs but you know just it just mounts up over the year if you're just sort of spending fifty quid here fifty quid there on different things. So, you know we became much more disciplined about controlling the costs the bottom line of the business I think absolutely critical."

396: Chris "we were at that point (mid 2001) we were losing a lot of money and then we had there were including Gill, there were seven people working in the business at that time and just about that time, it was kind of becoming clear that contracts that we thought we were going that we thought we'd won or we thought we had a very good chance of winning were not going to happen and in a sense I we had kind of kept the sort of human resource in place in anticipation of things happening which just didn't happen. And I think that was - you know - pretty much a common story for a lot of businesses of my type you know SNM I think that was probably about the time that they called it a day. Quite a few others and it was all very stressful and basically in July July no it was August of that 2001 we had a sort of crisis meeting where effectively we sort of we let go of three members of staff in an afternoon which wasn't much fun at all 'cause it was a bit sort of out of the blue to them "

531 Chris " I think the fact that we didn't we didn't we fortunately didn't expand too much we didn't get our overheads to such a level that it was we couldn't we were able to cut back very quickly it's painful not something I'd ever want to go through again but you kind of need to grow a few layers of skin"

432: Chris " John and I, we came within a hair's breadth of going bankrupt we were over our overdraft limit which had already been extended and there was John and I had

not paid ourselves we'd put all of our savings in it was basically you know we were within you know a matter of weeks of calling it a day and it would have been really bad news because you know it's not like we'd have just been left with a few I mean we'd have we wouldn't have been left with that many debts from the business but it's kind of like the indirect cost of what we've put in from our own personal savings would have just been we'd have just had to have written them off completely with no chance of ever getting them back so what John and I said was you know look we will for the next about you know fourteen months ago we said what we need to do is we need to survive and we need to make as much money as we possibly can don't think strategically about how we're going to run the business where we want to be we're just going to be like a money making machine for the next twelve months and we will work our arses off and we will you know as little money will go out of this business as possible so if we can do the work if it means we've got to work until two in the morning or 'til five in the morning, we'll do it rather than get someone else in and have to pay them because that's coming off our bottom line effectively."

After the loss of two significant contracts in quick succession, a design house approached John with whom it was acquainted to discuss some multimedia work, a capability it lacked in-house. Impressed at Chris' skills, including his obvious understanding of the agency relationship, 3Sixty won a contract [selection (organisation, entrepreneur)] which not only enabled it to redress its financial situation, but - as Chris quickly perceived - pointed it back toward a niche much more in line with his original vision for the business.

519: Chris “ Kind of just even when you get knocked back you keep you don't get disheartened you believe in what you're doing and you don't get distracted you don't go off at tangents. You just keep plodding away at it ultimately you wouldn't have done it in the first place if you were if you didn't have if you were a sort of nine to five. I want to make sure that my salary's in the bank at every month and that's the most important thing to me kind of person or if you weren't a person with ideas and independent spirit that didn't want to work for someone else I guess all of those things have to be in place before you start a business but I think what makes people those people let's say that are still around three four five six seven twenty years later is that allied with just that real you know I'm not going to be distracted by anything else and I'm not going to be I mean for instance about five months ago I spent quite a lot of time trying to get new two bits of business from quite a big business in Bristol and quite a big business from London and the total you know if I'd won the two contracts it would have worth about sixty grand. I put in a lot of effort to get them and they were kind of one had started the initial enquiry had started a long time before the other one they kind of seemed to start in parallel in terms of when the decision was going to be made and I'd got loads of great feedback from the client.. I'd been whittled down to the last two in both cases and within one afternoon, within the space of five minutes I got rejection calls from both and you know it was you know I'd put a lot of work in into them you know like to get the call and you're just getting over the first call and then the phone goes and you get the next the next call you know and it does sort of really knock the wind out of your sails and but I guess. I've got we've got enough successes under our belts so you so you can say ok didn't win those but you win some you lose some and then like a couple of hours later the phone goes and we get a load of work for General Electric the world's biggest

company. So you know that's and in a sense that's kind of you you start to have be a bit more patient and a bit of experience you have allows you to just be a little bit more ok it's it hasn't happened today but something good will happen next week providing you providing you carry on doing what you said you were going to do and also if you're I of I kind of have an almost spiritual belief in the fact that if you're honest if you have integrity if you work hard"

531: Chris " I think we're still around I think I think the fact that we've got out there and we've met people you know we haven't just sort of because in a way probably because I'm not a designer or a techie you know I've got nothing else to do in a strange sort of way I mean and I enjoy it I like meeting people I find people fascinating and interesting and so in some ways, it's just a spin off from me doing what I enjoy so whereas I think most of the other kind of businesses similar to mine in Bristol maybe don't have that person who's perhaps quite as gregarious as me. I'm quite a shy person fundamentally but you know there is no one else that I see in Bristol who is like me in front of competitor business who kind of who pops up here there and everywhere at networking dos and so on. It's it's a kind of numbers game you know you go you meet enough people you throw enough stones in the pond and eventually the ripples are going to come round and work for you. So yeah I think that that is pretty critical in explaining why we've been successful. I think John and I my partnership with John I think is critical. I think we're very you know we've very clear division of labour between what John what is John's realm and what is my realm there's no John wants me to clear all the shit away so he can concentrate on design and I want to have a brilliant designer who I can just confidently say right John John will do the job and John will turn out brilliant work. And we've got total trust in one another. I totally trust John.

John's got total integrity and that's a great thing to have in a business partner and I think we want very similar things out of the business. We've got very similar values as people you know and I think without you know we've been a great support to one another. If I had just been on my own, I think I'd have found it really hard but you know having John alongside and both going through similar thing both with young children and so on you know . And I guess that is another thing as well that we've we've perhaps had the hunger to succeed over and above other people Because of our maybe we're just that much older than some of the other people we've got family commitments and so on compared to other people which means we couldn't walk away from it we couldn't just say fuck it we're going to go travelling for a year and do something else because we can't walk away from it we've got to earn we've got to earn a good living to pay the bills. But you know I'm divorced but I have to pay for my daughter John's got two kids so in a kind of way we couldn't fail. Which is a strange which is a sort of strange I think other people's pain threshold was a lot lower than ours. You know other people would have given up sooner than us because they could walk away from it more easily”

532: Chris “ We're very project based and therefore we're much more like a film studio than an advertising agency in other words film studios have a core of people who keep the studio going from day from month to month. They then get a film in to make. They hire the actors. They hire the lighting people hire the animators all the specialist people to do the project they pay them to do the film and then they go off and go and work for other people. I in a sense that's the model that I'm working on we have a core of the core people and we build up all the specialists you know the animators, the sound people, all of those people there's no point in having on board on a permanent basis.

We build up a portfolio of those people in Bristol 'cause there's a lot of talent in Bristol and that we're the kind o hub for that we're a brand if you like that allows other people who are good at the technical thing but crap at marketing themselves to come in"

576: Chris " I have kind of taken the route of you know we need there's enough business in Bristol for us you know and there's enough opportunities in Bristol even though it's quite small it is a media city and there are opportunities and our first priority has had to be kind of establishing ourselves in Bristol doing and being the best at what we do in Bristol and then we need to you know and then I think the next year two years three years is looking at right ok there's only London really is so much bigger when it comes to marketing and all the rest of it agencies."

580: Chris " I mean the thing is we've kind of tapped virtually all the agencies in Bristol now you know there's hardly any that are worth that we've either established that we're not going to work with them for whatever reason or we are working with them already so if we want to kind of you know you've got to keep the new business thing going so the next the next thing will be right ok let's have a look at maybe London let's see how we could"

596: Chirs " I think what is happening is that despite you know the whole dot com bust had a really negative impact across the whole industry even though it was really only the dot coms were not businesses like 3Sixtywe weren't a dot com we weren't a business that was trying to be a business on-line. But we all got kind of tarred by the same brush and there was this from the hype of the Internet being the next best thing since sliced bread. Within the space of about six months everyone was saying actually it's a load of rubbish. What's happened is that I think a bit of reality a bit of common sense has kind of emerged into the marketplace in the last twelve months and people are saying ok so

yeah some of these ludicrous businesses like Boo or whatever that were just based on built on sand were ridiculous and that if you want to build an online business you know you've got to be a lot have a much better business plan than that but also people are saying well actually on the other hand this whole new media thing from a marketing communications perspective is really significant”

514: Chris “I I had one or two clients which did which perhaps made me think that that was a market to go for but and then you know it proved that those were more one-offs those were the exception rather than the rule. So, in a way what I've done in the last eight fourteen months is kind of come full circle back to the original idea which is a quite simple idea and just kept banging boringly on about it and just and I'm going to have to bang boringly on about it for the next twelve months ten years whatever you know. The one thing that'll guarantee failure is if we get to a point and say well we're bored of this now let's change it 'cause I think we've got a formula that works now and it's you know and we're constantly kind of honing it and refining it and making it clearer and in a way we're kind of it's all about trying to make it more simple more straightforward, because you know that's what marketing is about isn't it? It's not about good marketing is about taking quite potentially quite complicated ideas and making them very simple and easy to understand because in this world where you've got you know millions of messages flashing across people's eyes all the time you've got tiny you know you haven't got long to get through to someone and get the message across”.

Summary of empirical results

Selection of the organisation (entrepreneur)

Perhaps four categories of selection are demonstrated. First, 3Sixty is selected by people deciding to work with it, or for it, attraction of human resources, whether other organisations, partners, or staff. 3Sixty is also selected by people wanting to invest capital in it, attraction of capital resources; 3Sixty succeeded in securing a loan on the Small Firm Loan Guarantee scheme. Third, 3Sixty is selected by people wanting to own the value it creates, attraction of clients, like Studio6. Notably, certain of the value created by the business - seminars, club events etc - is free at the point of delivery. 3Sixty also manages to sublet part of its leasehold, effectively subsidising its operation; in so doing, it is selected by people wanting to consume value it owns, a fourth category. It may be that the fourth of these categories can be regarded a special case of the third [selection (organisation)].

Variation of the organisation

The organisation varies as elements of its structure - people, processes, and artefacts - change, or are changed. Headcount (and personnel) change(s), as, at first, it is thought end-to-end capability within the organisation is desirable and affordable. However, eventually it is contracted in an effort to minimise overheads, and this reflects a view that the film industry model, which is based on a rationalised core team, is suitable. Location changes, from a Cheddar home, to Queens Rd., a Bristol office.

The organisation's legal status also goes through a transition from sole trader, to a limited company, then taking on new director, as John was brought on board.

The 3Sixty service offer, and portfolio changes considerably through the course of the study; initially conceived (and executed) as providing marketing services through the web, 3Sixty began to offer e-commerce, web design, and hosting, in common with many competitors in the field, at one stage, providing any services to anyone, before returning to web marketing services, and a higher pricing structure. 3Sixty (qua Chris) originated and implemented several means of marketing and promotion. 3Sixty's identity, branding, and image was returned to the key idea of marketing using the web - and refocused.

By the rule of composition, changes to elements of structure of the actors within the organisation *ipso facto* represent variation in the organisation, modifying its capabilities, configuration, and giving rise to different behaviours.

Variation, and the sources of variation, have endogenous and exogenous aspects. The downturn in the industry, and drying up of contracts of work (exogenous to the organisation) made planned investment for growth impossible, and presented a more fundamental problem; immediately calling a crisis meeting, 3Sixty cut its overheads, letting staff go (endogenous), and becoming a "money making machine", relaxing criteria of acceptable work (endogenous), utilising its network of industry contacts to the full, and increasing work rate (endogenous).

Retention in the organisation

Elements of structure reside in people, routines, habits, and artefacts. In deciding to rationalise, a core of staff was retained (Chris, John, and Benj); retaining people, in the

literal sense, is an obvious means of retention in the organisation. At once, staff - and the entrepreneur - continued to work with, or for 3Sixty [selection (organisation)]. Relationships - between 3Sixty, and partners, collaborators, subcontractors, clients, and networks outside of the organisation - were also retained, residing in people, and maintained through an institutionalised presence in the industry (breakfast club, seminars, free advice, audits etc). Retention may, as in the case of the entrepreneur, be inferred from regularities or similarities of behaviour. Nor need it be continuous behaviour: after relaxing criteria for accepting work substantially, and being substantially involved in delivery of e-commerce, and web design, 3Sixty, with the Studio 6 contract, was allowed to return to the original proposition (marketing by means of the web), which would increasingly be focused upon.

The entrepreneur, organisation and the environment; variation, and change

The organisation may vary itself; the entrepreneur may create change in the organisation, as well as in its environment. Immediately downsizing, turning into a "money making machine" enabled 3Sixty to weather the storm, and keep its overdraft within sustainable limits. The active entrepreneur (changing the organisation) introduced a more passive behaviour in the organisation (accepting whatever work was requested of it).

The organisation (entrepreneur) may also create change in the environment. The various institutions formed by 3Sixty in the environment (change) - the free seminars, audits, introductions, breakfast clubs, demonstrations, networking - cumulatively worked to engender presence, recall, and association (change), strategically working to

increase the likelihood of future leads (change); the Studio 6 account, coming from this actively prosecuted 'numbers game', gave 3Sixty the opportunity to resume and deepen a focus on its retained proposition, 'hardening up on price' (active).

Points of note

The free agent selects his identity (entrepreneur) - Chris catches (and retains) 'the entrepreneurial bug'.

5.3.3. *Cousins / Sensible*

'I don't know if this is possible but...' rise & fall? of an entrepreneur

Case Study

Beginnings

Maggie relocated to Bristol in the late eighties to work as a graphic design associate in a co-operative. After two years, and with two colleagues, she started an independent design agency, taking existing clients with them. In the early nineties Maggie noticed the emerging marketing potential of the web, and digital media, and wished to become involved with larger companies. Some unfavourable personal circumstances, and natural circumspection caused her partners to resist any change to the business model.

So *Cousins* was started on 4th July 1994, by Maggie, and a former client-turned friend, Norman, acting as a sleeping partner. Previously a sales and marketing director for a large American technology company, and considering leaving corporate life for self-employment, he provided Maggie, on her own account, with a degree of confidence, as well as finance.

Before leaving the partnership, Maggie had begun to create an identity and a logo for the new venture, choosing penguins because of their capacity to inspire positive feelings in people. The designs were sent for production. Returning from holiday, she established the business in new offices, which both provided for growth, and avoided the need for disruption at a later stage.

Cousins began by servicing a base of clients carried over from her previous association. New business was soon required, and a process of cold calling, and organising of face-to-face meetings was begun in response. Maggie was aware of the importance of not being discounted simply on the basis of first impressions. On one such occasion, a large company visited Cousins to find a thriving, busy office. Impressed at Maggie's proposal, and capability, a contract was negotiated, and delivered. Subsequently, satisfied at the work that had been done, the client was also impressed to learn that the office that day had been effectively simulated, 'staffed' with friends, their own pot plants, computers, telephones, and chairs. With a solid base of graphic design work, the client base grew.

Maggie was determined to employ permanent staff strictly as the need arose, taking on a design graduate on the strength of his portfolio when the demands of delivery, administration, and new business became too great. Whilst his ability in this area matched its promise, he proved inflexible and offered a limited contribution. This left Maggie's workload unchanged, from a combination of mundane design work, and administration. The arrangement lasted two years, until he announced his departure, without notice, and which he effected immediately on the day. Around the same time, Norman, her founding partner, was approached by a large US corporation, and accepted the terms of their offer of employment. Though not wishing to work alone, and understanding why both should wish to leave (if not the manner of leaving, in the first instance), Maggie took the work on herself, and sought a new partner.

Learning a friend, Alan, had fallen on hard times, and both as a favour to him, as well as a help to herself, Maggie persuaded him into joining her at Cousins, making him, perhaps remarkably, an equal shareholder in the newly incorporated concern. The collaboration seemed in good order, with both directors having complementary skill sets.

The greatest single barrier to acceptance of new media propositions seemed to Maggie to be that people perceived them to have solely technical or technological value, rather than functional or marketing value. Maggie had been willing to risk much to the conviction that a great deal of latent potential was waiting to be exploited, and in Alan, she found a like mind.

In 1996 it was decided to incorporate web and new media elements into the *Cousins* service portfolio. A technical resource was sought, more formally, through placing advertisements, screening CVs, and conducting interviews.

Cerise, who was print trained and who had noted a grammatical error in the job advertisement proved to be a very valuable employee, teaching herself the skills required by the company from the combination of literature, hardware, and software acquired for the purpose. Clients continued to resist Maggie's efforts to sell them new media solutions, but this did not lessen her conviction, or her level of commitment, because she felt that, at worst, she was marginally ahead of the game.

Appointments to the board, dispute, and resolution

In 1996, a chairman and two non-executive directors were brought on board, through the agency of an accountancy firm. The chairman and the non-executive directors were intended to bolster the experience and wisdom of the original management team, as well as provide a means of avoiding or resolving stand-offs which may occur because of the equal shares of the two executive directors. Maggie considered the chairman and the non-executive directors to be of international calibre. At board meetings they began to contribute to the formulation of strategic direction. Maggie seemed to enjoy a particularly good personal relationship with the chairman.

The key relationship within the business deteriorated, with Maggie and Alan falling out, to an extent that the chairman perceived it threatened both the business and her personal welfare. A Bristol based solicitor acting on her behalf - for no fee - in combination with the chairman and non-executive directors, enabled Maggie to resolve the situation by forcing Alan to withdraw from his position. Some clients evidently took the opportunity to say that Cousins had received their business in spite of the departed director, rather than because of him.

Growth, success, and sale

The company resumed growth; it employed six more staff and was acquired by McCann Ericsson, the advertising giant, in 2000. Cerise took over managerial responsibility for the newly acquired Cousins, and Maggie departed.

Case Study

Sensible Group Limited: love in a cold climate

Beginnings

In 1998, whilst on vacation in America, Maggie conceived a new venture. Cousins was by now a success, and its facilities had been used to start another, Sensible Johnny, a web based means of distribution and sale of condoms. Then in 2000, FlirtAlert, an anonymous mobile flirting application for mobile users, using SMS text messaging, was conceived.

Having sold Cousins to McCann Ericsson in 2000. In August Maggie formed Sensible Group with an old friend and colleague, Aaron. Both described wanting to run Sensible in a different way to what they perceived were conventional small businesses, from the beginning, having no offices, using Just-in-Time methods more associated with manufacturing and logistics, and abandoning a business plan, or any idea of formalisation, soon after its inception.

Product development, search for partner

Towards the end of her time at Cousins, observing how much time pressures impacted upon people's lives Maggie had conducted research into mobile phone use, networks' product and service offers, and current technology as an alternative to newspaper based lonely hearts columns. The technology allowed for anonymity with geographic or location identification, making FlirtAlert feasible. More, such applications had the

potential to become key drivers of network traffic; here was something it seemed the youth market could and would do with their handsets.

In November 2000, Maggie and Aaron were introduced to Logica, (the Information Technology services house) who had formed a new wireless division, and who, assuming that it was where creativity and innovation lay, wanted to work with start-ups. Sensible required a partner with the capability of building the application. Sensible succeeded in securing Logica, though informally (no contracts were drawn up) as a distribution and marketing partner.

Logica requested that Maggie present FlirtAlert at the Cannes Global GSM Congress, early in the new year. Her presentation generated a significant amount of interest in the product, though no immediate backing.

Sensible had initially been funded by both executive directors. The (non-executive) management team, as was the case with Cousins, was drawn from world-class industry.

Sensible agreed with Logica that they would find a technology partner. Additional investment now came from the non-executive directors and one of their contacts, a businessman in the mobile billing industry, who also agreed to invest in Sensible Group, and offered to act as their representative to the US mobile networks.

Logica requested that Maggie make another presentation in Prague, at an ideas forum to which the networks were invited. Meetings were organised with Orange and Vodafone

to discuss FlirtAlert. Cousins' offices were temporarily transformed into Sensible Group HQ. Greek and South African carriers were also targeted.

Keen to build traffic on their networks, operators perceived the value of an application which, with five channels (five users could flirt simultaneously), promised considerable returns. Late in 2001, a number of European operators were approached, in Finland, and then Paris. A relationship was developed with Virgin UK and Australia. By this time, enough funds had been secured to enable a Dublin software house to build the application.

Search for a buyer

Negotiations continued with a number of operators, as the original relationship with Logica, informally struck up, and maintained, now deteriorated in the same way, Maggie citing irreconcilable notions of time, or timeliness (in her phrase, Logica worked in "old time" whereas Sensible worked in "Internet time").

Sensible Group, and Maggie in particular, began to be quite frustrated at the distended decision making, lack of customer focus, and resulting technology-led functionality (rather than the reverse) seeming to characterise the culture of the telecommunications industry (henceforth referred to as telcos).

Besides FlirtAlert, Sensible Group also proposed a gaming application supported by SMS/text technology. The South East Asian region - home to both a vast gaming and gambling market - was targeted through investor and industry contacts in the region.

"Non": Orange setback

Towards the end of 2001, Orange pulled out of negotiations over FlirtAlert, officially citing product specification as the reason behind its choosing a competitor. Off the record, it was believed that the French owned operator had come under pressure to partner with a French supplier. Continued dealings with operators cemented the impression at Sensible that customer relationships were not being exploited either appropriately, or competently.

It was suggested that Sensible retain the services of a salesperson, Cathy, by one of its investors (in fact, a Director of Logica). Accepting the importance of a sales representative, Cathy was employed by Sensible for a brief period before termination of her contract in June 2002. The experience seemed to have confirmed Maggie's discomfort when faced with selection of staff.

Eventually the first round of money dried up, having been made to last four months longer than envisaged, and bridging finance was required. Faced with a particularly hard investment climate for telcos, the executive directors did not draw a salary between April and October 2002. Some extra funding was contributed by both themselves, and their non-executive directors.

Virgin setback, industry cuts

On the back of successful London trials, Virgin Mobile issued press releases early in February announcing a Valentines Day launch for FlirtAlert. Though the product was factored in to the Virgin business strategy, T Mobile - having control and ownership of

the underlying infrastructure - did not allow Virgin to execute the launch by refusing to activate the (existing) technology, as was required.

The setback did not evidently dampen enthusiasm in FlirtAlert, or stop Sensible from continuing conversations with European operators, who tabled an offer of 10% of gross profit in return for their carriage (while taking on none of the promotion or administrative burden). These were terms to which the directors could not agree. Nor did it dampen enthusiasm in the product *category*, with an analogous product to FlirtAlert launching successfully in Germany and France.

Cold climate

Contacts in the Far East, and in South Africa promised much, but this foundered on what seemed a generalised freeze, and rationalisation in telcos budgets.

Maggie contends that Sensible was too early with the idea of Flirt, and too late with the application (built, or ready to go), confirming, for her, the criticality or primacy of timing. Text messaging had taken time to penetrate the user community. The experience had demonstrated the difficulties small firms encountered in engaging such large monolithic organisations as the operators.

Analysis

Unit of selection: entrepreneur [Maggie]

Having made a decision, after graduating from a vocational course in art, not to work for others [selection, variation (entrepreneur); active; intention], and after some years as a freelance designer, working in London, then Bristol, Maggie found herself working as an associate within a design cooperative, and turning down an opportunity [selection, entrepreneur] to work within a partnership. Taking certain of her clients with her, and two partners, as support in a new venture, she co-founded a new design consultancy [selection (entrepreneur)]. The pattern would be repeated [retention (entrepreneur)], as - agitating for growth, larger clients, and desiring to 'go digital' - Maggie could not persuade her partners of the new strategic course, and, settling amicably, founded a new organisation, Cousins, together with another client, the marketing director of Lucas, also cast primarily in a supporting role [retention (entrepreneur); selection (entrepreneur)]. Before leaving, the resources of her present environment would be used to produce assets integral to the operations of the sequel, with the branding and identity of the new venture being designed, and sent to the printers ready for deployment [variation (entrepreneur)].

104: Maggie" I started Cousins in we actually started on the fourth of July 1994 fourth of July Independence Day in the US I'm very fond of America so quite significant independence and all that..."

104: Maggie "And the two guys I set it up with one of them was particularly happy to stay as he was really and the other one had a breakdown during the time that we

worked together. So, we sort of talked about it and I wanted to go digital and I wanted to talk to bigger clients and I wanted to sort of grow and the other person didn't, so we parted company friends ... In our business, as with most businesses I suppose, you have clients, and they become sort of friends, and you have this sort of grey sort of area where you're not friends, and you're not clients, and he was a client of quite a few years, and we got on quite well. And he sort of encouraged me to do it, and put in some financial backing to it; and we started the business with some money that he put in, and government loan scheme I didn't have any real money of my own to put in."

104: Maggie "So, we started the company and it was a bit manic at the beginning because I still had the old company, so I sort of had to create a new identity and I think I was up 'til two o'clock in the morning, three o'clock in the morning, when I created the identity, and we went on holiday and it went to the printers and I came back and I started in a new office. My clients all came with me."

118: Maggie " (Norman was) not entrepreneur. Business really, I suppose. And I yeah business. But really I, with hindsight, yes he was a nice guy, we got on, he put some money in, helped me get started, and I one of my Achilles heels is I always think I'm not grown up enough, or I'm not big enough, or I'm not something enough, to actually be this person, and so, Norman, because he had a very big job title and a very big job, seemed like he would be better, or something, more credibility or something. No, probably he wasn't very business astute, and he probably wasn't very all the other things that..."

Though cushioned by retained accounts, Maggie was quickly beset by the range of problems that confronts a first time small business owner manager. Having learned

[variation, (entrepreneur)] to apply for a government business development loan, and having succeeded [selection (entrepreneur)], Maggie set to the tasks evidently at hand, particularly new business, which she attempted, for the first time in her life, through cold calling [variation (entrepreneur)]. Needing to win a significant contract, at short notice, and perceiving that pedigree, and experience was a key driver of choice of supplier, Maggie arranged for some personal acquaintances to assist in making her office, and business, appear somewhat larger, and more established than was the case [variation (entrepreneur)], by spending the day there, furniture, plants, process and all, a notion, and technique that she would call on again in the future [retention (entrepreneur)]. On the strength of her presentation, the account was won [selection (entrepreneur, organisation)].

With growth enabling Maggie to hire resource [selection (entrepreneur, organisation)], the new division of labour would describe the areas of business management she would be exposed to, which, as it turned out, were extensive, her first employee solely contributing design, if of high quality. She developed a range of new skills and experience [variation (entrepreneur)]. His leaving, together with Norman's departure, in short order, forced Maggie to adjust, but saw her quickly initiate a search for a replacement for Norman in the venture [active; intention; retention (entrepreneur)], and, through happenstance, find Alan [selection (entrepreneur, organisation)]. Successful for a time, the collaboration - which Maggie instituted [variation (organisation, entrepreneur)] by splitting the business down the middle (50/50), making Alan an equal partner - enabled Cousins to make significant progress, winning contracts [selection (organisation, entrepreneur)], accolades, and taking on staff alike [selection

(organisation, entrepreneur)]. Of the set of changes to Maggie's knowledge, and habits in the period, arguably the most consequential or significant lesson was the value in, and practice of retaining the services of non-executive directors [variation (entrepreneur)].

108: Maggie *"Because people have mortgages and responsibilities, I only ever employed people when we were so busy we couldn't physically do the work, couldn't do any more hours, so employed another person. First person I took on was complete madness really they were a graduate fresh out of college came to see me and, logically speaking, shouldn't have employed him because I needed somebody with experience, and we were very very busy, and I needed somebody who could do the work quickly. He was very very talented creatively. I looked at his folio and offered him the job there and then. I didn't put out an ad in the paper. I didn't see lots of people; so consequently, I had somebody who was very talented creatively, couldn't do artwork, and was very slow. So what happened was, because I'm not particularly into being the boss and therefore I'm not going to do these things he did a lot of the creative work, and I did the artwork, which in you know in those days, was the sort of boring bit, a very mundane part of the job. I also fronted the sales and went out and got new more work. And that was quite a big learning experience. That was the first person I'd ever employed, and we got on great. And he was with me for about two years. And then he came in on a Friday, and said I'm leaving to get another job well, fine, that happens, if I can't persuade you to stay but what he meant actually was he was leaving that day. That was a very steep learning curve, and I think I naively thought, that when you employ people, and you get on, and you're quite good to them.."*

112: Maggie "...about the same time he left, the guy that I had started the business with, Norman, decided, he was headhunted by a big company in the States, and he went to work in the States. And Norman was a very sweet individual he was a very kind person; he was also a fantastically talented person. He was black. If you think it's difficult being a woman in business, it's certainly difficult being black in business, and to get where he got, meant he was actually very very very good..."

126: Maggie " so when Norman left I bought his shares out and a guy called Alan and he was the husband of a best friend of my partner we sort of knew each other socially Alan was a very had been a very successful businessman entrepreneur very sort of what's the word non-executive conformist in a way. He made a fortune. He retired at 35 from London to a converted barn down in Chew Magna somewhere left it all to be run by his accountants and a manager who completely mismanaged it, and was made completely bankrupt and lost everything. Al actually came into the business through he fell into quite a bad depression and wouldn't leave the house and as a sort of I had an idea that to get him out of the house into the real world. I made essentially, I made up that I needed this job doing, and that I needed him to help me, and it worked, and then he really liked it, and then we really got on, and then then actually he did have he did have real skills and abilities so what started out as something to help a friend ended up being really beneficial to both of us. So he bought into the business, and we that's when we changed from a partnership to a limited company and, wrongly, or rightly, we split the company 50/50 because I I sort of I don't know whether I still believe this or not, but naively , for a long time, believed that if

you're going to work with somebody, then really you should split everything in the middle, and you should all get on and work..."

13:3 Maggie " And everything seemed to be going well and Alan was gave me a real boost of energy, and he was really you know the two of us together were very dynamic we sparked a lot.."

137: Maggie " (in) '96. And so the company had been going two years. And Alan was quite you know, I'd talked about the Internet, and Alan was keen for the Internet, and that's how we bought into the web in 96. Alan was kind of he had a lot of good ideas and was very dynamic, but he didn't follow things through. And so he would start things and then not follow them through. So we took on more staff we took on Cerise. And we did we tried to do it properly this time because Alan was did things a bit more properly, and so we advertised it, and we I remember looking through the CVs, and there was one CV where she had corrected the grammar in the advert, and that made me laugh because I thought that's quite ..."

141: Maggie" I thought I'll see her that something about that I thought you know I liked that, so anyway we saw these people and we conducted proper interviews or what we thought were proper interviews, and we decided that we'd take Cerise on and we thought well either she'd irritate the hell out of us or she'd be brilliant . Now, she was actually both. But Cerise was print trained but Cerise was very technical orientated and not really designer but technical and we essentially bought all the software and essentially she skilled herself up into Internet, and it was all home grown. And back in 96, it was very difficult to sell Internet to anybody. Clients were why do I need this, it'll never catch on."

151: Maggie " I guess I really passionately believed that it (the web) was the future I do still believe it's the future but I believed it was the future and it was going to transform the way that we did things in our personal lives and our business lives but I was I guess I wasn't ahead of there were lots of other people like me but we were all dotted around - I was ahead of our clients and the people I was trying to sell it to. And so I was in tune with what was happening ..."

Brought in initially as a source of general business advice [selection (entrepreneur, organisation); variation (organisation)], and introduced to both Maggie and Alan by a professional services intermediary, the non-executive team, including a chairman, equally came to provide personal and professional support for Maggie as the relationship between the partners deteriorated, as well as a means of achieving casting votes in the stalemates that otherwise would have ensued. More, taking Maggie to one side, the non-executive team, particularly its chairman, through advice, and the steps taken by some contacts in the law, was able to remove Alan from the business. The episode - with this lesson at its centre - evidently had a major impact on Maggie [consequence; variation (entrepreneur)], in combination with the eventual acquisition by McCann Ericsson [variation, (organisation, entrepreneur)].

155: Maggie" Alan and I fell out big time really really really fell out and it was a very terrible dreadful experience I have to say and had quite a profound effect. I mean we had to resort to solicitors and everything. It was very very nasty. And it was after the event that clients then say to you thank god you got rid of that person I couldn't stand him - we never gave you that work because of him. I'll tell you how bad he was. You

know solicitors never do anything for nothing. I won't name the practice but they were clients of ours, and they were a big practice in Bristol a big practice. One of the senior partners there when I went to him about the situation and I was upset because I felt I was out of losing control, he acted for me for nothing because he disliked him so much. Staff didn't like it. Staff were quite frightened of him. It was all very you know unpleasant really. But we managed to get rid of him with the help of solicitors with the help of my non-executive directors 'cause we had non-executive directors and I had a chairman. And actually that was quite insightful. I knew that things weren't right between Alan and I and that it wasn't working but I didn't know what to do about it because I had never been in that situation before and my chairman was actually the only person around me who was brave enough and he said can you come to London I'd like to see you on your own. And we met, and he he was the only one who was brave enough to say you have to get rid of this man, he's destroying your business, and I think actually he's damaging your own mental well being and he helped me get rid of him. And the non-executives all rallied round there were two other non-executives - and financially and emotionally helped with that transitional period. And that was a very you know people knock non-executives I think if you get the right non-executives in the business they're tremendously helpful, or they can be."

185: Maggie " I will be leaving cousins soon as I have sold it to McCann Ericcson and Cerice will be the MD in that company. I have started something new called Sensible Group."

Buoyed by the success, and impending sale of Cousins, Maggie began immediately to work on a new project. Evidently determined to reinvent herself, something which

seemed underpinned by a belief system, through an inversion of her skill set, the designer as problem-solver, turned entrepreneur (as originator and sponsor of innovative product design), this [variation (entrepreneur)] itself possibly a sort of solution to the problem of 'a new me' [consequence of experience at Cousins]. A number of original product designs would follow, conceived through novel applications of her design competencies, and lateral thinking method [retention (entrepreneur)]. Whilst still enjoying Cousins' facilities, she partnered with a long standing acquaintance [retention (entrepreneur); selection (entrepreneur)] - and 'experimented' with Sensible Johnny, a web retail and distribution concept, compiling a large business plan and financial projection dossier [variation (entrepreneur)], though not making significant progress with pursuit of finance, or buy-in.

284: Maggie “ When I was 40 which is 2 years ago, and I was in New York, my favourite town, I was in New York for my 40th and it was “there’s got to be more to life than this”, (than Cousins.) ”

292: Maggie “ in 1999. That’s when I started playing with things and that’s when Sensible Johnny came about, as a diversion. Then from Sensible Johnny, which was only a diversion, it was a game really, then, I did because I had a company that could just do everything and...”

304: Maggie “ in about 10 minutes because the chain of thinking is condensed which is years of what I do which is problem solving, you can take very complex problems. How good design people work is that they get all the information, everything, for what you want to do, then what you do is you chuck out all the things that aren’t relevant, shuffle it all around, strip it down to a minimalist thing until you get down to one or two

things. Now those one or two things, the skill is knowing what to throw out and what to keep, and if you get the right one or two things, they can be most successful because simple things work, complicated things I don't believe do work, because I believe most consumers aren't able to deal with complex things really."

315: Maggie " I looked at newspapers, well what sells the newspapers, well horoscopes are really big, stories obviously because that's what newspapers are about, classified ads, lonely hearts.... Aaaah-haaa, no-ones got any time to meet people! Whittle that down even further, so we tried classified, too complicated, alerting, because what do people do with their phones now? People send SMS and they chat people up and they dump them. They save things on the phone, do you know I read somewhere that British men are more happy to say "I love you" on their phones than they would ever say face to face, which is very sad, but so let's take something that people already do, give them an environment to do it in"

221: Maggie "So I thought of this idea, went back and phoned Aaron and said "I've thought of this idea, this is completely original, nobody's doing it and it will work on mobile..."

Conceiving of FlirtAlert [active], an application for mobile telephones, Maggie conceived Sensible Group as a vehicle for sponsoring 'serious entertainment for adults', assembling again a non-executive management team [retention (entrepreneur); selection (entrepreneur)], but specifically versed in the telecommunications industry [retention (entrepreneur); variation (entrepreneur)], and - deciding against compiling another plan - implementing JIT methods [variation (entrepreneur)]. More confident [variation (entrepreneur)], Maggie saw herself now more as an entrepreneur, no longer concerned

with the detail [variation (entrepreneur)], in self-conscious contrast to Cousins, something her partner saw to.

426: Maggie "the product it was called FlirtAlert and it was a flirting product for consumers sold not to direct we don't sell direct to consumers we sell to operators we're business to business but we were creating consumer based products and using our knowledge from our consumer based background"

121: Maggie " the new Sensible completely differently from the old Sensible. The old Sensible tried to do things properly, we wrote a huge 40 page business plan, we did all these financial projections, which as anyone who starts business knows is all guesswork really, it's having enough front to put down something and having even more front to get someone to believe they're real and put money in. We decided to do 'just in time', which is really big in manufacturing and has been widely successful for certain types of manufacturing industries, and what 'just in time' means is that you don't do anything until it's needed. What it means is that although it's a very frenetic and frantic, condensed time period when you produce something, what it means is that you don't waste time and you don't duplicate you don't produce something then two weeks later it's out of date because you have to produce something else, and certainly in the new media and new technology industry I think that's how it is, that things change very very quickly and they change on a daily basis. So with 'just in time', it's how we still operate, and again what that means is that it's very frenetic for time periods, which suits me because I quite like frenetic activity. So we went along to Logica in November, we got introduced to Logica through (non-executive) and it just so happened that had just formed a new division for wireless applications and they specifically wanted to

work with small start-up companies because as a large corporate they believe that small companies have ideas and large corporate don't have ideas, they have the ability to make ideas come to market and happen."

231: Maggie "Logica have, sort of, got many parts to their organisation and quite a major part is telecommunications, and they have been involved in the telcos industry for many years, and they bought two companies in the telcos sector, one of which our non-executive director was managing director."

Increasingly conversant with the language of the industry, and with strategic issues, Maggie perceived how her non-executive directors served equally as access, or facilitators of access, to the few key decision makers in the industry, instigating or leading to relationships with Logica, Orange, Virgin UK, amongst many others [variation (entrepreneur)]. What was more, the team offered finance [selection (entrepreneur)], and - through both their involvement, and contacts, made it easier to attract more [selection (entrepreneur)], as it became necessary. Maggie's presentational abilities [retention (entrepreneur)] were now deployed in global forums and conferences around the world, as she was introduced to people, made herself known to people [active], and invited [passive] to speak before high powered audiences.

259: Maggie " so there we were, we had quite a bit of excitement, we thought we had our first customer and we'd been at Cannes and it was all very exciting we had no money still, no way to build the thing, but it's all smoke and mirrors, told Logica we had money to build it, and we were trying to find people with money to build it, but didn't really know how to go about that, and didn't want to write a business plan, didn't

want to do a number of projections, been there done that. Our non-exec decided he would put money in and he got a group of his mates to put money in and so we raised £200,000. And one of his mates was the founder of the company which he used to work for which was bought by X and they were one of the original companies who invented pre-paid billing systems. This guy made a lots of money, lives in the US he is an investor, he's also an equity holder, he's also our US agent and is representing us in the US and going to talk to US networks in the US. We are as virtual as you can possibly make it, still not earning a salary, the investors only want to put the money in when we have the first customer, etc etc etc. Then Logica went to South Africa and they were interested in it. And went to France telecom and they were interested in it. Then they asked us, well me as I do all the public speaking as Aaron doesn't like it, asked us if we would speak in Prague. Logica organised an annual forum for all the European actually bigger than Europe as Australia was there, but all the networks, and it was to tell the networks the latest things that Logica was doing and it's sort of a think-tank on telcos and what's happening."

263: Maggie "There are 200 networks in the world, give or take, and they're not 200 different, they're probably all owned by 10 but there are 200 networks. I was asked to speak on our application in the application section, and I spoke in the same slot as someone from Orange, and grabbed the woman from Orange afterwards and to cut a long story short we got a meeting at Orange and Orange are very very excited and interested in it. Again don't forget we're only 2 people, we've got no office and we've got no money. When Vodafone wanted to come and see us we did a lot of market research for discussion groups with the 16- 24 age group, we turned Cousin's office into a Sensible office so all the signs were changed to Sensible group, people had

Sensible signs on their machines and she thought she had come to a Sensible office, because that's what you do when you start up. We've got non-geographic phone numbers so nobody knows where we are, so when we move, like I've just moved out of Cousins, nobody knows the difference."

430: Maggie " Everything looked good saw more operators I mean we saw a lot of operators, a couple in Finland, Belgium, German. I mean all over as you know we were working involved with Virgin UK. We then became involved with Virgin Australia doing."

370: Maggie "our next application is gambling, and the South East Asian market. We've talked about it with one of our investors as we've hopefully got some more investors now and one of our investors, his friend has just got the smart card license for gaming in Japan - we have a phenomenally fantastic gaming idea."

A series of unacceptable offers [selection (organisation, entrepreneur)], disappointed hopes, and false starts ensued, as the strategies of key players in a global industry were played out. Maggie became increasingly frustrated at what she perceived to be a self-injurious lack of foresight in the strategic management of the networks, and the extent of their power in the market. Perhaps reflecting how much emotional as well as financial investment had been made in the venture, Maggie also reported that, through her experience, she had ostensibly become difficult to employ. She was now faced with finding paid employment again, not having been able to take up her preferred option of offering small business consultancy services, and undertaking non-executive directorial work.

269: Maggie “ The frustrating thing about it is. I’m afraid that all went out the window with us really because we had no written contract when Logica took us to Cannes, we had no written contract when they were putting us in front of customers, the downside of that is they’re quite disorganised and they restructure every 10 minutes and we’ve dealt with so many people it’s been a total nightmare.”

442: Maggie “we had Logica looking to do a deal with us. So everything looked fantastic and as you often I think it's easy to be reflective in hindsight and I've done a lot of thinking about being in business and a woman in business and a small business trying to do business in a global market and I think a lot's written about it. And some people do do it but the practicalities and realities for a lot of people are actually very I think quite hard and tough. And so it's easy when things are all happening to think yes this is great well it's all happening you know we've got all these people wanting to speak to us and I think because in small businesses you can make things happen quickly because the decision making process the chain is short you can often change direction that you can easily forget that big businesses don't work like that and what big businesses say is very different from what big businesses do and big businesses can afford to ... until they go out of business waste a lot of people's time and money . so Orange didn't happen. The official I can give you the official and the off the record. The official is we were short-listed we got down to us and a French company big French company they employ about 1000 people and I remember at the time ‘cause Aaron and I had no money and no product. And we got short-listed with no product through smoke and mirrors and mocking it up and that's when why that stimulated us wanting to raise the money to build it etc. etc. what happened so the official line is that they didn't they didn't they really liked our product in fact they thought our product was

a better product but they went with this other company 'cause they had already launched this other company I mean very few companies like us had actually got a product to market it was very virginal and but this this company had managed to get one to market and they were much bigger than us and uunofficial because I did get to speak to the woman that I worked with at Orange so unofficially on a phone call was we had to go with them because they were a French company. And we're owned by France Telecom and we have to buy French your product, I can tell you now your product is a better product not only from a consumer point of view but from a technical point of view but there's no way that we would get your product through over this French company's product."

276: Maggie *"Well, they will but to try and get that partnership is not as straightforward as it might seem, and what they've been prepared to do is to short circuit it and a couple of people have championed our products and gone out there, and are talking directly to come account managers. There's a group of X in Greece who are quite interested, and you know, sort of it's all a bit ad-hoc at the moment, and when the papers are signed it'll all become formal and proper and rolled-out and all that sort of thing but we could all be collecting our pensions. Would 'no' and 'brainer' come to mind, I mean, we've been in front of two networks, one of which was buying it and the other wants to buy it. The reason I'm saying no-brainer which sounds very arrogant, but if you look at the way our applications, and that's only our first one, they're not well, the philosophy behind everything we're going to build isn't "oh that's a good idea let's do it "or, it's or, as you often get in telcos and in other technology industries it's "if you've got the technology let's do this", and everyone forgets about the consumer. Now I come from a consumer-related background, a marketing background, so for me*

the only thing that's interesting, it's all about the customer and technology's only the channel to deliver. So that's why we're using SMS for our first application, because SMS is massive on the street. Wap is lovely, doesn't have the user base, and as the industry says, "Wap is crap". The user interface (not my words it's the industry) the user interface is appalling, and what you can get on it is mind-numbingly boring unless you want the weather and you want share price. Now if you're 18 and you are a student and you don't want that, you probably want to know where you can get cheap beer and where your nearest pub is, so we looked, our philosophy is, we looked at what people spend their money on offline, this is why it's not like Cousins, we took a very business approach to it."

466: Maggie " (in) 2002 we effectively the first round of money that we raised was supposed to last six months I think or I think we made it last ten months the we then went out for VC money Unfortunately coinciding with the same time that bottom was rapidly beginning to drop out of the telcos market it was it was actually a horrendous time to raise any money for anything. But telcos was seriously not a good time to raise money we ran out of money we stopped taking a salary. I haven't had a salary since April. The we went back to the original investors for some bridging finance of which the two biggest investors in,- a guy in America and the Logica guy said they would put in Aaron and I then put cash in to effectively cover the investment. The other investors weren't prepared to bridge to raise this bridging money we haven't run out of money now we are still have cash in the bank mainly because Aaron and I don't take a salary. I've also learned is I'm actually shouldn't be in charge of recruiting people because I don't think I recruit people for the right reasons. Maybe that was a bit hard I mean I the people at Cousins were successful and that business was successful and was sold so

maybe that's a little bit hard but I don't think it's my strength recruiting people in sales roles is definitely not my strength recruiting people in creative roles I think I'm very good at so Sensible hasn't sold anything to anybody we were given the run around by a lot of people... and if I hear one more time your product is the best product on the market but we're not taking it..."

487: Maggie " (Virgin UK) press machine went into action it was in all the press it was on all the radio that they were launching this product to all their customer base on Valentine's Day this year. They didn't tell us that "

491: Maggie "we were talking to them, we were talking about a trial a certain number of people to test the product and bed it in and tie it into a a marketing event they were doing in London, next we know we get the press release can you ok this from from their press office and then it's the Wire picks it up I mean my guy in America emailed me to say it had been everywhere. So ok we played off the back of that because it worked to our advantage then Virgin great though they are you know and I've got a lot of respect for Richard Branson. I think I don't like him and I wouldn't trust him as far as I could throw him but I respect him you know you can like not like people and still respect them you know there's an expression all mouth and no trousers so they went off and said all this they're virtual carriers they're reliant on what was then One2One which is now T-Mobile. What they didn't check out they made assumptions but wrong assumptions is that our application would sit on One2One's technology now it does but One2One through political reasons with Virgin wouldn't let them have wouldn't switch on the various bits that need to make it happen... there's all sorts of politics here .. "

507: Maggie *"Virgin are in the unfortunate position where because One to One or T Mobile won't grant them this facility Virgin can't actually launch any peer to peer applications at al. not just ours ..."*

600: Maggie *"I came to the conclusion that any fool can make money in a boom and the operators all made money when everyone was desperate to get hold of a mobile phone you know so it didn't really matter how bad the phone was, how poor the coverage was you know if you think huge parts of Britain didn't have any coverage everybody was desperate for it they couldn't shift them fast enough so share price goes up and share price we know isn't related to profit and it all you know on the back of share price you raise more money you acquire more companies that Vodafone did you know but sooner or later somebody has to see a profit coming through and so I think they're arrogant they don't understand customers they can't market to customers and they're not prepared to work in true in partnership with people like myself and all the other people like me they want us to do all the work and they want to take all the money because they're arrogant enough to think you're lucky that you are so lucky that we let you use our network which is why some companies and we've recently spoken to one and in the end they decided not to take our product, they had a dating product and they thought they could see the difference but they knew operators were too stupid to see the difference. I mean this is the thing. All us suppliers are all laughing at the operators because they can't see they can't see the subtle differences between things because they don't understand the market they don't understand the psychology of how people do stuff and but this company were in the console games market and then they got into the mobile market they're big and they have said and they've worked with so many they've worked with all the big people they said working with operators is an absolute*

nightmare and they're experienced at working with big companies in the computer games market and they're so pissed off with the operators they're now taking the strategic decision that they are going to bypass operators they will use operators merely as the carrier and they're going to build their own brand and launch their own product."

637: Maggie " I've had enough.. I'm sick of it... I'm sick of the whole thing"

645: Maggie" I think I'm disillusioned ... I think jaded.. I think that"

649: Maggie ". well currently the state of the world.. I mean the US election result I mean the world's gone bloody mad but yeah there's a lot more serious things to worry about than mobile phones. Yes I mean yes I with the operators I think it's very difficult to do business in a different way it's always difficult to go against and very few people make it so I'm disillusioned with disillusion is the right word really - but small businesses... big business.. small business versus big business and being a woman in business basically I think it's crap. I mean I'm currently I think I want to do some more executive work and I'm suspecting and I'm going to the companies where I sourced my non-executives sort of one's quite a leading company and I suspect if you you know if you had had could get could sort of have you know go behind the scenes there. I suspect the number of women non-executives they'd place are tiny. I mean when I wanted a woman non-executives when Alan and we went to a specialist company that did it and the company when we and we and we you know when we wanted a balance on our board they didn't send us and the other traditional ones didn't send us one woman"

653: Maggie "we're all kidding ourselves you know just because whatever her name is is head of Hewllet Packard I mean let's not kid ourselves you know you know old boys network"

657: Maggie " well let's not kid ourselves the world is male orientated you know and I do believe we wouldn't be about to go to war if it was in a different circumstance you know all that testosterone flies around and everything else common sense goes out the window. I just think in America.. it's .. I mean you know I'm not saying it's all wonderful there 'cause it ain't but I just think it's a little bit more there are more women in senior positions in America than there are in the UK there are more people in senior positions who don't come from public schools in America, you know, and I think what I think is you know I've worked all my life to get away from where I came from and I come from a very I'm a single parent background very working class no money nothing and what I think is all the skills and things I've tried to do and you know broken a few barriers being a woman doing these things like working in the Internet you know all those sorts of things and actually what I think and now I'm looking around and I've got you know I have to earn a living and I'm looking at consultancy work and I'm looking at non-executive work I mean I looked at getting a job and that's very depressing because nobody wants to employ you if you've run your own business and the really really fantastic thing is that actually when you run your own business you have a multitude of skills and actually when people employ people they want people who just do box things go into a box and they know a lot about that "

661: Maggie "you know and everybody who employs people what they all want is that you've worked for a big company "

682: Maggie " well you know when I had a communications company, well what ended up being a communications consultancy a new media consultancy, I chose to employ people to do those tasks rather than learn them myself because I oversaw so I don't have that skill. I couldn't go back to freelancing 'cause I don't have that skill I wouldn't want to go back to do that but I don't you know all the people who worked for me "

698: Maggie " after I sold to McCann Ericcson. McCann Ericcson destroyed my business (Cousins) and sacked everyone not sacked made everyone redundant they destroyed it they completely destroyed it. Now everybody I used to used to work for me because of the way I worked with them I trained them all to run their own businesses and what have they gone and done of course which is brilliant they're all working on their own businesses so they're all earning an income. I can't earn an income what would you think? I've deskilled myself, nobody wants to employ me because I ran my own business I ran my own business I don't have a degree ."

702: Maggie " everybody wants a degree everybody wants a degree so I haven't got a degree I'd always, because I was too busy running a company and building a company employing people I haven't got practical skills as in I mean I ought to go back and do that but doing what my guys are now doing for themselves the skills I've got of course are transferable in communication terms to senior roles in big companies but no one will touch you because you haven't worked for a big company. I'd be very interested to know if you think I can work in anything 'cause right as it stands right now I have spent all my working life managing to completely deskill myself and I can't earn an income.."

706: Maggie " you know and I've employed people and my you know my little business that I sold to McCann Ericcson for half a million and you know etc etc and I can't get a job."

742: Maggie "but people don't want, you know, my ideal would be some non-executive work because I do feel I could add real value because I worked you know ran small companies and when I was looking for non-executives. I had a lot of CVs in from quite old retired big company people and I used to think what do they know about running a small company so I think you know I do have a lot to offer because I actually know what it's like to balance the books and make those hard decisions and do all those things whether I'll get anything out of it, I don't know I mean I don't know like I say "

778: Maggie "Sensible is dead. I've let go of that. And my you know when you said to me all the people you know that you started with are I mean I wasn't surprised at all. "

Summary of empirical results

The entrepreneur as unit of selection

The entrepreneur is here the identity assumed by, or role played by Maggie in founding, running an operation, whether alone, or in partnership. She may be distinguished from the organisation with which she is identified by both a naturalistic argument, and an argument from divisibility. First, the lines of separation, and boundaries between the two (the organisation and the entrepreneur) are intuitive; it seems right, or natural, concurring with our everyday experience. Second, the divisibility of the entrepreneur and the organisation may be demonstrated. If one wished to contend that Maggie could not be separated conceptually from Cousins, then the same argument would apply to Alan, after his taking an equal share (and control) in the business. This was of course not the case; it was possible to remove him from the organisation, something moreover that clients moved to acclaim. In the same way, McCann Ericsson was able to acquire

Cousins. This does not trouble the rule of composition (the sense in which the project or organisation is the intention, or projection, or progress of the entrepreneur).

The environment of the entrepreneur includes the organisation; the organisation is exogenous to the entrepreneur

Maggie is selected (or not) by staff and partners, within the boundaries of the organisation, as well as by financiers, customers, and buyers without. Her first employee decides to leave. Norman also chooses to leave.

Selection of the entrepreneur

Three broad categories of selection are demonstrated. First, Maggie is selected by people deciding to work with her, or for her (attraction of human resources), whether her partners, her staff, or her non-executives. Maggie is also selected by people wanting to invest capital in her, or her project (attraction of capital resources); she succeeds in getting a government loan, investment from partners, and non-executives. Third, Maggie is selected by people wanting to own the value she creates (attraction of customers, like Virgin - potentially - or buyers, like McCann Ericsson).

Variation of the entrepreneur

It is possible to identify variation in Maggie, as entrepreneur, as changes to her features, or elements of structure, which are manifest in her behaviour. It may be useful to distinguish those features of the entrepreneur concerned with function, know-how, technique, method (i.e. how she goes about doing things) from features of personality,

or personal characteristics, though there is likely to be a certain level of interaction between them.

In terms of know-how, variation in underlying structure is manifest in new behaviours (not previously in evidence), though it may be difficult to infer, or identify cause, means, or timing. So, Maggie learns cold-calling as a means of generating leads; learns to exploit the resources available to her in her surroundings; learns the value of, and means of making the organisation seem larger than it really is; learns to take on a new director, dividing share holdings, (before learning the disadvantages in such a distribution); learns the value and means of retaining non-executive directors, discovering such new uses for them as a means of introduction, or of getting access to decision makers; learns the concepts and language of an entire industry; learns how to prepare a business plan, only to decide against its being used again in launching Sensible Group, instead opting for a learned JIT model of operation.

Features of personality, or personal characteristics may also be subject to change. Self-image, esteem, attitude and confidence may change, with more or less obvious cause or effect. Variation is then part of entrepreneurial learning.

Retention in the entrepreneur

If performance of new behaviour can be said in some cases to indicate variation, regardless of cause, retention as repetition of, or performance of like behaviour can be said sometimes to indicate similarity of underlying structure, though cause or means may not be explicit. In terms of knowledge, or know-how, for example, Maggie

demonstrates the retention of knowledge of how pretension to a bigger size and establishment through 'smoke and mirrors' can help her to win contracts (and a belief in its efficacy). First enacted at Cousins, the Cousins office - which was still hers at the time - was made to appear to be Sensible Group HQ. It is at this moment that retention in this respect becomes apparent, and may be inferred. As such, retention is also part of entrepreneurial learning.

Activity and passivity of the entrepreneur

The entrepreneur may fall in with, be led by, accept, and accommodate opportunities, courses of action, paths that open to her, and may equally stand against them, refuse, try something different, pursue a goal, a predetermined purpose. A given circumstance may contrive to make it more or less difficult to accept a course of action. In so doing, the actions of the entrepreneur may to a greater or lesser extent cause change: in herself, the organisation, and the wider environment. Where the entrepreneur pursues a course, refusing, or avoiding circumstances and opportunities, the entrepreneur is more active. Where the entrepreneur accepts the encounters, opportunities presented to her, she is more passive. Where the effect of entrepreneurial action is to change the environment (including organisation), she is more active. Where the effect is not to change the environment (including organisation), she is more passive. In two instances, Maggie declines opportunities presented to her, turning down an offer of partnership in a design concern, and refusing the terms of an offer for FlirtAlert tabled by the operators. Equally, Maggie remains convinced in the potential of the Internet, despite considerable scepticism, and caution in her peer group. Having taken on non-executive directors again at Sensible Group, she falls in with suggestions both to speak or present at

conferences, and industry forums, and to employ a sales manager. Maggie induces Alan, who was depressed at the time, to come into partnership. She uses her 'smoke and mirrors' to convert a prospect into a client.

It may be that these two aspects of activity and passivity require conceptual separation.

Effect, intentionality, and consequentiality

The effect of entrepreneurial action may be intentional, or consequential. Taken on for resources of experience, direction, and guidance [intention], the non-executives directors provide Maggie with a resolution of stalemate, and then of the breakdown in relationship between herself and her partner, Alan [consequence]. A chain of effects, and learning on her part, leads to repetitions of behaviour (hiring non-executives directors again at Sensible Group), further learning, and so on [consequence].

Points of note

Selection(s) may be refused, or declined

It is interesting to note that not all selections are accepted, and that, then, the entrepreneur can be said to have some power or determinacy in the matter. Maggie does not accept the offer tabled for FlirtAlert, for example.

The free agent selects her identity (entrepreneur)

As free agents, those deciding to work with Maggie, as partners or staff, are of the selecting environment (they could do something else just as Norman, and Maggie's first employee decide to do). There may be a sense that, provided a satisfactory description

of entrepreneurship could be produced, Maggie, as a free agent, is opting to continue in her identity. 'Jaded' or 'disillusioned' at her experiences with Sensible Group, Maggie is seeking instead to offer consultancy and non-executive services.

5.3.4.IG

I'm great, therefore I am.

Case Study

Beginnings

In 1993, after completing a computer studies course, James founded a short-lived partnership with friend and graphic designer, Pete. Out of curiosity, the partners produced websites with no thought of there being an effective market for them at the time, before going their separate ways into computer technical services and freelance graphic design respectively.

In 1994, James met Xavier through his brother. A year later, he met Mark whilst working at Motorola. Xavier had completed his degree, and had located in Bath, working in a design house. Dissatisfied with life at Motorola, and with Mark's knowledge, James handed in his resignation, contacting Xavier to propose they start a 'Mac-based' company together. Similarly dissatisfied with his situation, and, in the belief that an ambition as a cartoon writer would be served through achieving cachet as a director of a successful web/design house, Xavier agreed.

The new venture was called IG, a phrase taken from a well-known Macintosh biopic (S. Levy), and was registered using an off-the-shelf pack from Office World.

Moonlighting

Continuing to work elsewhere provided both a means of financing the fledgling venture, and a contingency plan in the event of failure - if at some cost to their leisure - with James on contract to provide technical services to the BBC (Cardiff), Mark continuing at Motorola (Swindon), and Xavier providing design services from an office in Bath. It also paid a dividend in new work. Contracts of work invariably arose from personal contact. Early in January, Mark called to suggest IG bid for a Motorola outsourcing contract, as his line manager had suggested. Their bid was accepted. IG performed to the standard expected and the contract was paid quarterly, in advance, providing the bedrock seed capital for IG. Through personal contact, James negotiated a contract to deliver a CD-ROM production to the BBC, a difficult project whose errors, and resulting lessons, proved to be of some value; in future deals Xavier would thoroughly research projects of work prior to production.

Learning that Xavier had recently co-operated on a design commission with Pete, his erstwhile partner, James decided to contact him again to offer him a place at IG. After some persuasion, Pete agreed, bringing on board Tom, another designer.

The set-up was the realisation of James' desire to work with friends and without the office politics he felt had soured his experience of corporate life, and to work with Macintosh, rather than PC technology.

Giving up the day job

In March 1998, James gave his notice in to the BBC and committed full time to IG. At once, it became apparent that those sharing the Bath office with Xavier had been

commissioning work from him, and selling it on at a high mark-up, precipitating his move to Bristol, and bringing IG under one roof. There they would remain until September 1999.

Xavier assumed responsibility for web design, and multimedia production. His colleagues focused on print, and graphic design. James, whilst performing the technical role in the company, began to assume responsibility for administration by default. One of their most significant accounts, the Central Office of Information, was characteristically won through recommendation. In response to delivering free pitches unsuccessfully, it was decided that prospective clients could be screened through levying a small fee.

Another personal contact bore fruit in the form of a contract to produce the identity and (re) branding for Lotus, the motor manufacturer, which, despite, its being delivered to specification, did not lead to more work because Lotus decided to perform further work in-house. Contracts of work were rarely, if ever, turned away, hours were long and, with the benefit of hindsight, the impression persisted that through lack of confidence or inexperience, they had through this period consistently undercharged for their services. Resources were accordingly stretched.

The company found itself having to deal with an increasing volume of complex administration but in the absence of a big enough budget to invest in suitable off-the-shelf software solutions they decided to develop a simple project management software application, called IGPM. This proved to be of great utility throughout the company. A

more sophisticated (and relational) version of IGPM, based on the Filemaker Pro platform enabled IG to perform a variety of functions – including, managing projects, maintaining client lists and distributing marketing information. Though a single licensed copy of IGPM was sold to a third party IG did not evidently have the appetite to develop it further, because they felt that they did not have the distribution and marketing infrastructure that this would require. IG employed a sales manager with a manufacturing background for a three month period. He proved to be ineffective and ill suited to the nature of the industry.

Relocation, growth

A substantial investment by an earlier client enabled IG to relocate to a relatively high cost city centre office in Corn Street. Designed by the originator of the red public telephone box, the Corn Street building was equipped with high speed Internet access and provided a facility from which to offer the full gamut of design and web based services, albeit at a higher price structure. After some indecision about whether to produce marketing materials in-house a marketing and PR company was commissioned to produce a brochure and accompanying CD ROM for IG.

As before, work seemed primarily to flow from word-of-mouth recommendations. A contact at Motorola was able to introduce IG to four clients, each of whom commissioned lucrative contracts for work. One was struck up after a chance meeting outside the office James agreed to visit a premises to troubleshoot a Mac installation and this led to contracts to produce an extranet facility, website, and CD-ROM. Because of these experiences the directors came to believe that work comes primarily

from contacts, and from personal encounters, rather than brochures, cold calls, speculative emails, and even websites. Great store was set by personal visits, even once only visits, and this gave pronounced emphasis to location.

James' role would ostensibly be subject to most change. From its predominantly technical nature, James progressively involved himself in business strategy, operations, and people management. He became increasingly persuaded that better treatment of individuals paid a dividend in their performance, or productivity, which contrasted with his observations at Motorola. The technical competencies of the company now rested with Vincent, a new member of staff, and Mark, who had joined from Motorola. IG learned a substantial amount about evaluating people and projects, placing more emphasis on the former in the process, and perceiving that the company's unusual name helped it to be recalled easily, and making first impressions count when people had met all, or any of IG's personnel.

Recruitment remained *ad hoc*, insofar as people would approach IG and, provided there seemed to be a good fit and there was a vacant position, would be invited to join. Similarly, there was no strong sense or ethic of planning in the company. Though a business plan had been written in reality little or no heed was paid to it. It was not felt that this attitude would close off possibilities for future work and, in any case, it was difficult to forecast client requirements.

Commissioning outside business advice was considered, but no obvious advisor materialised. Moreover, James was confident in his ability to competently manage the

business and felt that in the people assembled at IG, who were all now on the payroll, there was a combination of ability and integrity that would stand them in good stead. The perception was that unlike other firms in the field their motivation did not begin and end with profit; James regarded the moniker 'entrepreneur' as having somewhat pejorative connotations.

After the move to Corn Street there had been a somewhat more regular division of labour and definition of roles. For example, both James and Michelle dealt with new business and client contact, and project management; James assumed ultimate responsibility for technical delivery, and Michelle had responsibility for design. Partnerships with other design and programming concerns were not sought, but entered into where it was felt work could not be done without them.

Concentration of repeat business, web projects

In 2001 IG found itself in what seemed an enviable position, looking to secure contracts with larger accounts. The vast majority of their work (some 90%) was now arising from repeat contracts. Notably, the range of their work had narrowed too. In May 2001 Pete decided to leave. His departure was amicable and he retained his stake in IG.

Increasing competition, pressure on revenues, decline.

The pressures of increased competition began to be felt. Expanded supply met dwindling demand. IG were often invited to bid against several companies for work,

something which involved considerable sunk cost, and, not confident of being able to tender a competitive bid, IG began to refuse to participate in open pitches.

Staff and the sleeping partner alike were kept informed at all times, the latter having nothing to suggest and evidently taking the view that events must take their course.

In the last quarter of 2001 IG posted its first loss, and the trend continued into 2002. Good months were followed by bad months. Tied to the premises through contract, IG decided not to pay the penalties that would release them from it, and made an effort to reduce overheads as far as was possible. Work continued - the office was 'flat out' in delivering relatively poorly remunerated work - but in vain, "feeding cash into a machine that eats it up faster than you can throw it in."

In 2002, two large prospective contracts were lost, one due to the foot and mouth crisis (Bath and West Show), and one due to the said impact of '9/11' (a London bookseller). The order book was reduced to contracts for completion of websites at relatively low rates of pay. In July 2002 it was decided to settle up, dispose of such assets as was possible, pay outstanding dues, and to cease trading.

In hindsight, sales

IG had made some efforts to market the company. James felt in hindsight that a greater sales effort could have been made. The brochure now looked a less efficient means of winning contracts than sales, though they would have preferred business to have come from recommendation alone.

In the run up to 2001 it was felt that readily obtainable investment funding had enabled many agencies to produce websites, multimedia, and other implementations at an artificially competitive price. A shakeout had resulted from withdrawal of this effective subsidy, allowing a certain number to re-start, often from their homes, with lower overheads, and aggressive pricing strategies. Relatively low barriers to entry ensured a continuing supply of new small entrants, working with low overheads. On the demand side, most companies had by now invested in a website and were looking to their maintenance rather than to new development. A general malaise in the North Atlantic business climate, and particular malaise in the industry (burst of the dot com bubble) had made things that much worse.

More or less everything that it was possible to do had been done to stay afloat. In order to avoid bankruptcy the directors took on the debt of the concern.

Analysis

Unit of selection: organisation

IG began as a vision of friends working together, with high quality equipment, and producing high quality work [active; selection (entrepreneur, organisation)]. Predicated on a love of computing technology, and as a result of his working in corporate environments which he had found unpleasant, James took the first steps in enacting his vision by tendering his resignation at Motorola in response to being asked to perform a duty he considered had no reasonable grounds [active; intention].

598: Xavier *"in terms of the original idea, that was initially his (James) most... he wanted to work with Macs, in a nice place, with his friends, kind of thing, rather than having to sort of put up with the politics of a large corporation for any longer. He wanted to do things on his own terms, and instantly sort of inspired me to sort of do the same."*

594: Xavier *"it (IG) started I guess back from when James gave me a call from Motorola, the day he'd been asked to replace a perfectly good Mac with a PC that was known to fail. After handing in his resignation, he gave me a call and asked if I wanted to start up a Mac-based company."*

Using an off the shelf business pack James and Xavier founded a company, calling it IG Great [intention], and searching for alternative employment [active], taking a personal contract at the BBC (Cardiff). Drawing on a reserve of goodwill at Motorola [consequence], Mark, who was an existing contact there, collaborated [selection (organisation)] and alerted IG both to Motorola's requirements of an outsourced supplier of technical support services and his line manager's willingness to do them a good turn [selection (organisation, entrepreneur)].

41: James *"I mean literally, I resigned on a Thursday afternoon and I had a job offer the following morning at the BBC."*

45: James *"I'd just done my third month at the BBC Mark, who was still there as a contractor phoned me up I think you know literally we started January the 1st whatever and we were doing this work for the BBC.. I think the second week of January it might even have been the first week it was actually just after New Year's Eve they Motorola*

brought in a new regulation that said they couldn't employ contractors any more.. They had to outsource anyone who was currently a contractor; and mark was a contractor so he phoned me up and said "I know you've started this thing but you know", Chris who was my old boss and mark's current boss " is saying that he wants to outsource all the support maybe there's an opportunity for us" so I said great you know let's do this. So we put a proposal together to do the technical support for all the Macs at Motorola Swindon you know there were hundreds and hundreds of them I mean it's what Mark and I had done for the previous two years."

49: James "yeah he wanted us to have this contract I think partly because I think he liked me and I think more to the point he knew we'd do a better job because we knew the site really well."

A second contract of work was offered to the nascent concern through James discovering that BBC Cardiff wished to produce a CD-ROM. IG won another lucrative contract [change; variation (organisation); selection (organisation)].

41: James " during my, I think my second month at the BBC, I got talking to somebody in the graphics department who said they were looking for somebody to do a CD-ROM, so we got our first job."

81: James " the BBC CD-ROM was a bit of luck 'cause I just happened to be in this department and happened to be speaking to this person. At Motorola Mark and I I used to work there, Mark was still working there. You know, I suppose it may have been a bit of luck but we were in the right place"

89: James “ it’s been the same all the way through. That you know it’s been through people that we’ve known that have recommended us I mean that’s basically how we’ve got work”

James worked to persuade [active] Pete, another designer in his acquaintance, to nominally associate himself with the new organisation on terms that were agreeable to both [active; variation (organisation)]. With Tom, a design colleague, he joined and channelled the revenue they earned from their own accounts through IG, drawing the same level of remuneration as before, but as paid contractors [variation (organisation); selection (organisation)].

89: James “after I think I might have gone to him once or twice eventually I persuaded them. Pete said “well I’ve got a company I haven’t been in work for in Bristol at St Nicholas or in the centre but they’re opening offices in St Nicholas St and they want to rent out the top floor we could take office space there and it’s only three hundred pounds a month” so I said “let’s do it”. Pete wanted the office and I suppose he thought this was a good way you know we were going to pay the rent on the office, he got the office and he’d carry on working for these people..”

651: James “first year was lots and lots of hard work. Moving to Bristol was as a result of Pete finding the office space in St Nicholas Street and essentially inviting us to join up with him with the idea of him eventually becoming part of the company, which I think wasn’t the initial idea but it happened fairly quickly, and he brought along Tom.”

As such, the venture began to be established, with members working more or less independently, but clearing their finances through IG. Work was not always delivered smoothly, with James and Mark still holding down full time jobs. Some technical lessons were learned [variation (organisation)] - but work was consistently produced [selection (organisation)] at what seems to have been a high standard, and on more than reasonable terms, something which was remembered by at least one early client, who would approach them with an offer of investment, in due course [consequence].

Finding market conditions no longer warranted the effort to work simultaneously outside of IG, operations were all brought under one roof at St Nicholas Street [variation (organisation)]. The team could now work full time, achieving some expansion in the business [selection (organisation)], splitting their efforts between design work, and web based and technical services contracts [passive].

97: James *"In March 1998, I finally handed in my notice at the BBC. I think they wanted to renew my contract for another three months or six months and I said, you know I've got a company I've started a company it's been running three months now and I'm going to leave to make a go of it. So we came to Bristol and we were then you know five of us in Bristol and we stayed that way for about eighteen months"*

105: James *"so at that point, I mean there was more work being done or as much work being done on the graphics and print side as on the web side."*

113: James *"we still had the Motorola contract and plus there were a few other clients who need people to help sort out Macs or networking problems so I was doing a*

bit of that I mean but it wasn't in terms of our revenue it wasn't a very big amount probably only ten five ten % the rest was coming from design work"

IGPM was written [variation (organisation)], revised, and implemented in Filemaker Pro, allowing the business to systematise the flow of project and management information [variation (organisation)]. Freelance resource supplemented the core team as and when it was required [variation (organisation)]. Leads were still expected from word of mouth recommendations, something that had occurred to date, and looked set [retention (organisation)] to continue.

414: James "(IGPM) which tells all the projects in process at the moment and check the email"

413: James "as in sort of Microsoft Project or one of those it's slightly different in that they're more like a sort of a spreadsheet or a graphing program whereas what our program is more about managing contact and it stores dates and times of all the contact you've had with a client on a particular project. It does timesheets as well so you can allocate a you know you can quote the number of hours on a project and when you put the timesheets in you can see how many hours were actually done the days and dates those hours were done whether any overtime was done and it also does all the invoicing so it calculates net profits so or rather gross profits, cost of sales against the job you know so if you send out a courier or have something printed you put all the cost to us in at the same time so you can see all the cost associated with the job and how much we're charging the client so you can see how much money making .. "

439: James “ well I mean three years ago we had no money I mean we were only bringing in a couple of thousand a month so there was just you know there was no I mean we had no money to pay ourselves let alone buy anything we just we didn't have petty cash you know if we wanted to buy anything we had to buy it out of our own pockets so there was just you know if we'd had lots of money maybe we would have looked around but..”

443: James “ the first version Xavier did. He just, he then said well instead of having 'cause we had a job booked writing job numbers in and then job title this was just for invoicing so we just had a track of what job was and then we made an electronic version. so you could just allocate a job number electronically so it was just a flat file database with a job number. a description. “

447: James “ it runs on Filemaker Pro, Filemaker Pro but it's now relational so it manages projects, client list all our marketing's now done through it as well because you can we've imported some a client list that we'd bought so within clients there are multiple contacts people so we can address something to a particular person.”

466: James “ I mean well the thing is it was never developed as a product, it's been run you know developed for us but it just so happens that someone else use it I mean the thing is we've often thought about doing that becoming a more products based company but it's difficult because one we're not really set up for it because there's a there would be a lot of if you wanted to package the software there would be a lot of work needing to be done on it that would not essentially be paid for until we sold it two we're not really set up for distribution and marketing of products so at the moment it's very much if somebody comes to us and says you know can I have this and we have it then we'll sell it to them”

468: Simi “any other products?”

470: James “there’s one other that we’re working on which is an extranet which is being developed for artwork approval over the Internet and that is going to be sold not as a standalone thing but as a customised to very big companies.”

474: James “but again it’s not something you’d buy in a box off a shelf it’s got a specialised application and it’s going to be very expensive as well so it’s going to be you know out of the range of the average small business it’s only really going to be for big corporations. At the moment we have some people lined up through a client of ours they have two or three people looking to buy it well I think it’s a very interesting area because you know one thing’s about being a company that’s not just design but technical is that you can most design companies unless they work in furniture design or manufacturing or something they don’t produce I mean graphic design companies don’t produce products they can sell the only thing they sell is their time to artwork things but if you’re programming if you write programs as well you can produce things which are stand alone and can be sold you know as a product.”

Aware that perhaps more could be done to market the business, and on the basis of a recommendation, IG took on a salesman [variation (organisation); selection (organisation)] who had a track record in business-to-business industrial sales. After three months, and having lost two significant contracts of work, IG let him go, finding his approach had been received as very 'pushy' [change]. Jaundiced at the business of sales, IG reverted to its model of wait-and-see, recommendation based marketing, that had seemed to stand it in good enough stead to date [passive; retention (organisation)].

117: James *"I mean we wouldn't have even known how (to do sales). We did employ a salesman for about three months but we just found it was hopeless I mean he was not from the right background really if we'd employed him to do new business. He wasn't the right person to do it he was you know I'm trying to think of the right word he'd sold ball bearings and you know done the sort of visiting people with price lists sort of thing. You can't really do that with design 'cause it's not a product it's a service and so it's very hard to sell it in those kind of terms so we experimented with trying to get new work that kind of way but we didn't find it very successful in fact we dismally failed the way we got work was through being recommended and through clients recommending us and that's basically how it's been up to now"*

In need of more space, IG searched for alternative premises [active; variation (organisation)]. Unable to move within the same building, James noticed an advertising hoarding opposite and made enquiries [intention]. However, IG found the proposed property unsuitable because it was larger than required and too costly. Consequently, the letting agent invited them to view Corn Street [consequence], a central Bristol let, set in a listed building designed by the originator of the red telephone box.

117 James *"We saw it and we had to have it, although it was more than we expected to pay."*

IG received a call from an erstwhile client, and investor, Milo [consequence], who, having been impressed by his encounter with IG, and searching for an investment, entered negotiations with the team. After some deliberation within IG, he agreed to take

a 30% stake in the venture [variation (organisation); passive; selection (organisation)]. With considerable funding now at their disposal, and it being recommended that the money be spent promptly in light of the tax cycle, IG spent freely [variation (organisation)], immediately moving into Corn Street, where they installed high quality infrastructure –(including a high speed Internet connection) and employed their staff on a permanent basis [variation (organisation); selection (organisation)]

321 James “ Milo had no children and wanted to invest some. At first we didn't want his money as we wanted to stay independent but after conversations with our accountant and several meetings with Milo, we realised he would be hands off. So we agreed and asked him for £100k. He didn't bat an eyelid; I suppose we could have asked him for more. Anyway now we had this money and we had to spend it. It was great because we moved into Corn Street we hired more staff and got high speed Internet access.”

321: James “we've had taken investment again not that we had any intention of doing it but I think probably when you saw us.”

324: James “ but somebody invested in us and he's not a director but he does own a bit of the company not a controlling share.”

328: James “ he (Milo) has his own company in London but he phoned us up one day and said would you like some money so we said ok you know. I speak to him once a week once a fortnight and he's yeah he's seventy years old he's already very very wealthy he didn't need the money. “

332: James “he's an antiquarian bookseller he ran a bank once with his own money.”

185: James “ We undercharged quite a lot, I suppose that was our early mistake was to undervalue our work. I suppose you didn’t we didn’t feel confident that we in and charge this for. It wasn’t ‘til years later that I discovered some of our clients were so incredibly surprised at how cheap we were but of course it got us more work because many people said these people did a good job the other mistake undercharging is a very dangerous area to get into because not only do you not do yourself any favours you end up doing a less good job because you have to work twice as hard on three times as many projects you’re always doing five different things your effort is then split between five different things so you tend to deliver late you’re permanently tired because you’re working so hard all the time and you can’t afford to take any time off or pay yourself a decent wage it’s actually bad for the client too. Most clients wouldn’t/t understand that, how can it possibly be bad for us. The reason it’s bad for you is that the job probably never gets delivered on time and you probably don’t get the job exactly as you wanted it because we’re having to split our time so it’s actually not good so those were the early mistakes.”

219: James “ yeah but I think in the early days the mistakes we made were bad production skills, which was just in terms of I mean in advertising agencies they have account handlers but this is the thing that you know that we couldn’t afford in the early days anyway just to have someone that deals purely with the clients, finds out what they want, writes the brief, briefs the designer, because most designers, although you find it’s good to have them discussing the design aspects with the client, once the job’s going you need someone there to be the buffer ‘cause some clients will phone everyday several times a day and what will happen is the designer will get irritated you know you just end u p with friction and I think that was something we didn’t have we couldn’t

afford it for one but it's a very important role and so you know in terms of making sure that not only is the right job delivered but its delivered at the right time, the right price that was a skill that taken us three years to get the right people and the right skills too."

221: Smi " *did you lose any contracts as a consequence of tardy delivery? "*

223: James " *..well there's a few that have gone.. but we've lost almost none that we didn't want to lose there have been some that have moved on as we grew and our prices went up you know, they wouldn't pay for it. we weren't sorry to see them go."*

Contracts of work continued to flow, now supplemented by a line of new business arising from the location. [variation (organisation); consequence; selection (organisation)]

231: James " *(I'd) say, we've never done a piece of work for somebody as far as I can remember nothing major without meeting them a face to face meeting.."*

239: James " *I mean we have got a few clients I mean but we have always gone to see them at least initially. Of the ones that we've really done a lot of work with you could almost track the ones we've done the most work for and how close they are I would say with almost one hundred per cent certainty there would be a direct correlation between their proximity to us and how much work we get from them because even just being around a particular company if you're just popping in now and again when you're there you're in there mind."*

288: James " *I think it's very difficult I think there are certainly areas of business that I can see growing very rapidly in terms of what we want to be I think we want to work with larger companies that's been the biggest barrier over the past years. We're*

running the company far more officially i.e. everybody's on real salaries, there are no dividends paid so overheads are high incredibly now and now the same as everyone else's which are pretty substantial.. I mean we need to bring in about four hundred thousand pounds this year just to cover the costs, overheads you know we have a nice office here and that's expensive we have high speed Internet access and that's twenty grand a year you know there's so at the moment we probably do need more big clients bring in all you know I don't really mind what work it is.."

Prospective clients were encountered in the street [passive], and assisted informally, leading to contracts. Prospective staff, in the form of interested people allowed to walk in off the street [selection (organisation)], could be cherry-picked from what was effectively a continual parade. Word of mouth, and continuing recommendations seemed to confirm an impression at the firm that what mattered was personal quality [retention (organisation)].

177: James " one day I was walking across the centre of town and my mobile rang and it was him and he said I'm over at Epoch design in Queen Square, this Mac based company and they're having a problem with their network and he said I can't figure it out can you come and help he said you must have met them and I said no I've never even heard of them they're now one of our biggest clients. He just introduced me to everyone there and I said I'm from this new agency and we've done this new CD-ROM for them, we've done a website, we've done an Extranet, we've done you know fifty thousand pounds worth of work just from that one meeting, just because I was walking through town and I just happened to be available and they had a problem with their

network ,and I thought this'll be a good opportunity to meet people so it's been all about connections really meeting people not brochures, or phone calls, or emails, or websites: meeting people is what has made the difference to our company. "

181: James "Pete and myself ... actually I think the three of us (James, Pete, Xavier) generally are good at in fact four there's another one Thomas Books as well I mean he that guy brought us so much work originally because of things he wanted to do but he didn't know how to but he thought we could help him."

659: Xavier "I think the most prestigious job of the second year was the Lotus job which was mainly due to Pete's input and his contacts he had a friend who joined Lotus as a marketing director and so that was our sort of initial foot in the door, and we were initially doing sort of a few small jobs for them and then the branding came along for Motor sport, the identity for that and that led onto more and more work and was absolutely superb, what we were doing for them."

342: James "I would say number one is the people 'cause if you're in a service based business we're not winning stuff by undercutting anyone it's not like a production line you know you're going to win because you produce X unit 2 pence cheaper than your competitor. It's about the quality and the skills of the people you employ the attitude to your work which always shows through. As I said before about employing the sales people when I have sales people here you can tell which ones are just out to sell you I mean advertising sales are the worst people you know they don't give a damn about what they're selling they could be selling you chocolate roasted peanuts they're just trying to get their commission and if people will figure that out being honest I've always found that being honest pays off in the long term."

375: James *"I think it's partly because we have a very unusual name I think that's one of the things that people remember us and as I say these people seem to like us whether they rate our work or not people seem to like us as individuals."*

Although larger accounts were desired [intention], no work was refused [passive], and was now split greatly in favour of web based service contracts over print design. Pete decided to leave the business. Negotiations to buy his shares in the company fell through; Pete retained his stake, but otherwise severed his professional association [variation (organisation)].

186: James *"whereas we admittedly virtually never turned down a paid piece of work I mean I think it was two years before we turned down a single piece of work even no matter how small and effectively worthless it was because we couldn't afford to turn anything down."*

288: James *"you know I don't really mind what work it is I think my rules for are that we get new clients in, that they bring in work that we enjoy doing it doesn't really matter to me whether it's e-commerce, web, extranet, CD-ROM, graphic design."*

723: James *"so Pete left and there were various discussions about him wanting to buy shares and things sorry us wanting to buy his shares back him wanting to sell them at initially a higher price than we were willing to pay and but we got had loads of negotiations but nothing ever came of it. He retained his shares and we didn't buy them we considered borrowing some money from the bank but we were given the go-ahead to do that but he wouldn't accept our offer. So that was a good thing in fact as it turned*

out so he retained his share in the company and he then set up on his own and we carried on.”

IG responded to an evident downturn in their usual fashion by carrying on as before in Corn Street [passive]. The immediate symptom was a decline in *new* business (with repeat business, and retained clients, or accounts continuing), it becoming much harder to win whatever business remained [change]. Demand dwindled as the business and investment climate worsened and competition became increasingly intense, both as extant competitors fought to stay the course, some desperately, and other practitioners started up again after mergers, acquisitions, and dissolutions with much lower overheads [change].

Clearly visible in the IGPM-presented information, losses were posted for the first time. Trusting to goodwill, for six months, IG continued to wait and see [passive]. The situation did not improve however, and it was exacerbated by a continuing pattern of over-delivery, where more work went into contracts than invoices reflected, on key contracts and the failure to win new business, much of which now seemed to call for involvement in open competition with up to twenty bids for work. IG invariably declined to bid [active; intention].

723: James “unfortunately at that time just at the beginning to mid 2001 competition in the new media just increased and I think there was less work around and we got the situation where several pitches towards the end of 2001 where we were invited to tender against up to 20 companies and more frequently we refused to participate as we

just didn't see the point for the amount of work involved there was such a slim chance of getting any work I think it was the end of 2001. I've forgotten which quarter it was trying to think back now I think it was the the quarter October November December quarter that we made a loss of about £15,000 our first big loss for a while and the following two quarters were the same or were in fact worse the January Feb March quarter we made a loss of £3,0000 and I think by mid-summer our losses were running close to about £45,000. So we knew things were pretty serious and then basically I began talks with Xavier saying you know we couldn't carry on as we were there was just no way that you know that we were going to be able to cover the losses unless we you know suddenly some amazing job came along so we just sat back and I think another month passed and we said well we won't make the decision to close yet we'll wait four weeks four weeks and you know the beginning of July we sat down and said well we're going to have to close."

741: James " I used to see other people and not just in the new media area but just generally who didn't seem to have any on day to day record of what their overheads were what their income was and had vast inefficiencies in terms of their information flows I mean that was something we were really good at and yet we still failed and it just seemed then you know that we hadn't really done anything wrong I mean if somebody said well what what could you have done better? I think possibly the marketing side I think in that after the second year we should have spent more. "

800: James " mid 2001 virtually everybody who wanted a website had a website and some people were commissioning a new site but when they were putting work out to tender I had two instances with more than fifteen companies invited to the tendering. There was nothing that you could do at that point."

305: James “ Growth has been organic, we didn’t have any fixed plans we had a business plan I wrote at the start of this which we haven’t stuck to at all well we didn’t use it because nobody gave us any money, and it’s usually pie in the sky anyway.”

308: James “ the business plan was really, we’re three or four talented people we already have contacts in industry ‘cause we’ve already been working in various parts of it and we can get work in and by combining our skills of creative and technical ability. Should be onto a winner because it’s something the way all of design and advertising and marketing is going it’s creative combined with technical things like e-commerce.”

565: James “.well you can plan but you’re very much because we didn’t build up a huge amount of capital or anything although we did have some investment money to let the thing grow and take its own shape. “

569: James “ I think it’s very hard to try and form a company a small company and try and force it into a particular shape.”

578: James “so many things have happened so many things happened that were unexpected. Well, I’ll give you an example, right let’s just take, if we look around the room about a lot of it is about attitude and people’s perception of you and these things you repel the wrong kind of people and attract the right kind and the same with clients.”

582: James “ planning is very interesting I don’t know I don’t know I think I suppose it depends on the kind of business you do and it depends who your clients are I mean if it’s client led I don’t see how you can unless you change your clients or you’ve got a huge budget as I said if you’ve got a huge budget for marketing then you can very specific people dedicated to say getting in new work then probably you need to work to

a plan if I had a marketing department I'd have a plan for them to work to and if you've got a product you know I think it's much easier to do planning you know shift a certain number of units market this product to X number of people if you're a services based company if our company service-based I don't see how you can really plan for that."

586: James " planning in terms of things like even just like recruitment, Vincent came to see us we didn't have any jobs here but I saw him anyway. I mean if you're planning and you're saying I'm just going to work to this fixed plan you may be shutting yourself off to other opportunities simply because they don't fit into your plan, Vincent we had a couple we met for a drink, I said come and see me again next week 'cause he seemed like a really nice guy second week then I started talking to Xavier and Pete and said there's this great guy you know I know we haven't got any jobs but I think we should employ him and they all went ok well so then we had a third meeting and this time Pete and Xavier came along and met Vincent."

Now trying [active] to rein in overheads, IG planned a solution, but found it could not extricate itself from the Corn Street lease without incurring penalties which, it was thought, would negate the net benefit of a move. Overheads were reduced somewhat, though staff were not axed [variation (organisation)]. The loss of two major contracts due to chance events [change] - the foot and mouth crisis impacting one major client, and the World Trade Centre attack impacting Milo (a client and investor) - persuaded the team that the only way left to them was out. IG ceased trading.

723: James "unless we'd sacked everyone and then we still would have had too many overheads between a couple of us so there was just no way out and closure was really

the only option at that stage. At one point we did look around I think it was in June 2002, so this was about nine months you know into the period where we'd stopped making money. We looked at alternative premises looked at Park St and this place but basically the landlord refused to let us out of the lease."

725:James " so we moved to alternative premises and unfortunately the landlords we just don't have the money the rent with the agreement that we had was going up every year. I think it started at £20 per square foot by the time we left the rent was over £2000 a month we thought well if we get back to a much cheaper premises we change our Internet access and we pay people you know perhaps profit related pay or something just a basic we can carry on and we put this plan to everyone and everyone seemed to be in agreement that they would do it but then basically what happened is that the landlords wouldn't let us out of the lease they said fine you can leave but if we can't get somebody else in here we're just going to carry on charging you we're going to take you to court if necessary to get the money back off you so the problem was then that once we'd looked at the costs of moving of relocating all the equipment it ended up being about the same as we could save in rent and everything else so the net there was no net benefit to us.. "

733: James "I mean we delivered the Wells Cathedral website very big site with about 90 odd page site and we still have still doing the work for them now or I am but I think I think it highlighted to me some of the the real dangers with new media which are the complexity of them that's the the big problem the complexity the diverse range of skills you need and we had all that but frequently find that people's budgets just weren't enough to cover what we were doing to give you an example the Wells Cathedral Project the budget was about £12,000."

800: James "Xavier was busy the whole time I was busy the whole time and the two techie girls were busy the whole time. There were a couple of the other girls who sometimes weren't so busy but the core people were all busy the whole of that nine months working away and still we didn't make enough money even to stay where we were that's sort of depressing really that you know. We were in all you know we didn't we had lots of happy clients we had there were lots of things we did right but they just most people just didn't really have the money. Of course, as more and more companies went bankrupt people got more and more desperate for work people were doing free sites, website for half price I mean we've had know full well that it wasn't what it would have cost them to do and then the reverse side of course as soon as companies started to go down we thought great you know I mean when we lasted through 2001 we were like we've made it because we'd seen about half of our competitors go in the previous year and has it come back again? So suddenly we had not half as many competitors but twice as many competitors people you know the design had been working for big companies now running from their bedrooms and coming in at rates that we just couldn't compete with you know they could they could quote jobs half what we could didn't have the overheads So you know I mean and then we had the other thing was I mean that was one side the other and equal part of it was a lot of the people that we'd done work for were having problems we had foot and mouth we had September 11. We had all these things I mean there were several companies that customers of ours that those things affect them so badly the Royal Bath & West Society being one who we we'd just quoted a major redesign of their site 'cause of foot and mouth their income went down by half a million pounds and they just cancelled the whole lot and then another client a bookseller in London antiquarian bookseller

because of September 11 their income dropped they didn't have the money to spend on their site anymore. So that we had two things you know lots of competitors not much work around from new customers hardly any new work being pushed."

804: James "I mean it was my decision basically I mean Xavier although he was involved in the running of the company I mean really he was a designer he didn't make the business decisions. He kept suggesting ways to get through things but you know I. beginning of June I said look things are really I mean we knew every quarter 'cause we used to have meetings and said ok these are the results put them up on the board everyone would know what was going on. So it wasn't hidden everyone knew that we were really up against it.. I kept saying you know we have to break even this quarter and then we wouldn't and then ok next quarter we're gonna break even.. I mean it wasn't that we were thinking we're going to make lots of money we can just survive a bit longer it's going to pick up the worst is over but it didn't. We decided then I think we got to you know beginning of July and I I think it was a Sunday evening and I and I said I've got to be honest with you I've been speaking to Milo for the past four months and the losses were now forty thousand and I said I think it's time we called it a day. If we go on, we're just.. we're going to end up trading insolvently which I didn't want to do.. So I had a discussion with him and I phoned Xavier I think I possibly told Xavier first maybe that was on a Friday I think we went out and I said you know it's over it's finished the dream is over and we can't carry on so I think that was on Friday and Sunday I phoned Milo and he said you know I think you've fought very hard you couldn't have done any more than you did and most of you know most of this is factors beyond your control there isn't anything cause I kept saying if only I'd done this better and he kept saying well look at your most of them have gone too and some of them

did things differently to you so there's really nothing that we could have done so I think we came in on the Monday morning and we got and said sorry but it's finished. And most people took it quite well It wasn't really it was sort of a relief really I think that was the feeling once I'd taken the decision it felt like a great weight had been lifted thank god in a way was sad we then had six weeks in the office where we were selling off equipment some got auctioned and quite a lot of our clients bought equipment so gradually the office got emptier and emptier. I was still going into work at that point 'cause we still had work that was half way completed. So I still had things finish but Xavier then moved out he moved home and set up an office there and gradually the office got emptier and emptier and eventually there was only sort of two desks left and that huge space and the landlord people opposite us said they were interested 'cause I put letters boxes I think somebody bought something for £25 but the fact that the tenants opposite came and leased our office space. So the landlords as they got somebody in within a few weeks of our leaving credited us; they tried to charge us two extra months but in fact they credited it back. So at the end of what by the end of December I think we finished about an extra £25,000 of work during the period from the time it was either half finished when we decided to close or had been commissioned just before we decided to close."

Summary of empirical results

Selection of the organisation (entrepreneur)

Three categories of selection are in evidence. First, IG is selected by people deciding to work with it, or for it, attracting human resources, whether other organisations, partners, or staff. IG is also selected by people wanting to invest capital in it (attraction of capital resources); IG is approached by an erstwhile client, Milo, with an investment proposition. Third, IG is selected by people wanting to own the value it creates (attraction of clients, like Motorola, BBC).

Throughout the course of the study, the model of, or causes of IG's selection remained consistent; contracts through personal recommendations, based initially on good quality of work/service at a very competitive price, but always and everywhere underpinned by goodwill, by being liked, usually by means of a positive personal meeting.

Variation of the organisation

The organisation varies as elements of its structure - people, processes, and artefacts - change, or are changed. Headcount (and personnel) change(s), especially after Milo's investment enables more staff to be taken on, if problematically. The business is gathered under one roof, with the move to St Nicholas St, and moves to Corn Street [variation], again, after new finance [selection] has made it feasible. The Corn Street location is considered responsible - with the name - for attracting many prospective staff [change] leading to their being taken on [variation; selection], as well as new accounts [selection]. A limited company from the beginning, IG took on directors;

Milo's investment, and 30% share, as had been expected, did not see him interfere, or intervene in the business. Infrastructure was changed through procurement [endogenous variation], expedited by response to a third party recommendation as to the tax year; and, in the case of IGPM, through innovation [variation], which would ensure an effective supply of information to the business.

Variation in the entrepreneur, indeed in any of the people, processes, and artefacts *ipso facto* varies the organisation. As the market called for open pitches offering little chance of selection, IG enacts its new learning by declining to participate. IG begins to discriminate between prospective clients - James learning to identify types of client - and adjusting its pricing structures (after moving) in recognition of likely undercharging and over delivery in the past. A salesman is hired [variation; selection] for a period, with what is perceived to be a negative impact (impression of pushiness) [change].

Retention in the organisation

Insofar as elements of structure persist, there can be said to be retention. *IG* from the beginning, the business retains the name; the team are persuaded that it, along with their ethos, the Corn Street office, and the associated image is part of the reason that they are readily recalled, and are contacted through recommendations. It is used, and to an extent enters common parlance [change]; no moves are made to change it through formal process.

In another instance, aware that recommendation as a channel of new business might be complemented by a dedicated sales resource, and it being thought that the required skill

set is lacking in the organisation, a salesman is hired [variation; selection]. Whilst employed [retention], his approach comes to be considered inappropriate as IG learns that not only his advances, but the business itself is considered aggressive [change]; he is invited to leave, and IG resumes a past pattern of behaviour, a reliance on recommendation. This indicates retention of underlying structure (belief that it is the most effective channel, means of attracting new business), but also that structural variations or retentions are not necessarily exhibited as behaviour (performed).

Retention may also constrain. Having renewed the Corn Street tenancy, IG - despite intending to reduce overheads, and planning relocation [variation]- finds, through discussion with the landlord, that it cannot execute its plan without incurring penalties that negate its benefits; the move does not happen, plans are shelved, and the Corn St address (and overhead) remains [retention].

The project management and management information process at IG is changed, and, in part, captured [retention] in IGPM, its self-authored software. The artefact passes - after IG's having ceased trading, and with variation - to I Geek, and to Xavier's new venture.

Activity and passivity of the organisation

The organisation may fall in with, be led by, accept, and accommodate opportunities, courses of action, paths that open to it, and may equally stand against them, refuse, try something different, pursue a goal, a predetermined purpose. Circumstance contrives to make it more or less difficult to accept a course of action. In so doing, the actions of

the organisation may to a greater or lesser extent cause change: that is in itself, and in the wider environment. Where the organisation pursues a course, refusing, or avoiding circumstances and opportunities, the organisation is more active. Where the organisation accepts the encounters, opportunities presented to it, it is more passive. Where the effect of action by the organisation is to change the environment, it is more active. Where the effect is not to change the environment, it is more passive.

Finding that its contacts provide it with a satisfactory source of work, IG relies on recommendation to provide opportunities of work [passive]. Work is not turned away [passive], and is initially accepted and performed on the terms presented by the environment, with a consequent pattern of over delivery (contributing more effort to a project than is agreed to be billed) and sometimes constraining the quality of work done. More confident, as time goes by, and more established, the organisation is able to negotiate more of the terms and conditions of work done, raising price [active]. The model remains recommendation-led [passive], despite an emerging desire to retain bigger clients [variation]; the balance of delivery shifts greatly toward web services (rather than print design). IG's method of search (for human resource) is also passive; especially at Corn St, potential or prospective resources approach the company, before a choice is made [variation; selection]. Perhaps characteristically, IG's response to tightening conditions is to 'wait and see', renewing the Corn Street tenancy, and retaining the overheads that would quickly become unsupportable. Though an effort was made to rationalise costs [active], if late in the game, its limits had already been set.

CHAPTER 6 - SUMMARY AND CONCLUSIONS

6.1. Summary of empirical results and implications for theory

Criteria for evaluation of empirical results were presented in chapter four. The test of the model, and its applicability, is in three parts. The first is in its credibility, realism, and explanatory potential - both logical or theoretical consistency, and empirical tractability. Are social, organisational and entrepreneurial processes *actually* evolutionary? Where do the three pillars of a Darwinian theory of evolution - namely variation, retention, and selection - reside in the social domain? Second, the extent of its support to further inquiry, theory building, and hypothesis generation may be considered. Third, and last, a judgement needs to be made as to the replicability of the analysis.

The theoretical coherence of the model has already been demonstrated in chapter three. The empirical investigation supports the core propositions of the model, as well as some of its extensions. Organisation, entrepreneur, routine and habit may be posited as units of selection.

It is possible to demonstrate where selection, variation, and retention reside in relation to each, and therefore evolution. The empirical content specified for each is meaningful, and intuitive. This being so, it is suggested that there is considerable scope for co-evolutionary or multi unit analyses, whose value has been indicated in earlier chapters. Moreover, this study suggests that social, organisational, and entrepreneurial processes

may be *actually* rather than *analogically* evolutionary, at the exponent level, and would seem to suggest a model of the evolutionary algorithm applies to the *social* as well as to the *natural* domain.

Use of the model in this investigation would seem to confirm the proposition that the framework provides support to further inquiry, theory building, and hypothesis generation. It assisted in clarifying additional existing and original facets of the model, and supported their definition. For example, change - defined as discontinuity in part of, or the whole of the environment could be usefully distinguished from variation in the unit of selection. Passivity and activity - terms which have acquired considerable currency in practical management and consulting parlance - have a specific and reasonable sense in terms of the model. Intention and consequence do not qualify processes of variation alone. Intention originates with people, entrepreneurs, and, by the rule of composition, organisations. A distinction between structure and behaviour - and a place for both habit and routine in the model seems to be warranted. Traditional conceptual boundaries (e.g., the organisation as bounded entity) may have sophisticated aspects. Staff, as free agents *within* the organisation, are nevertheless at once part of the environment that selects it.

It is further possible to develop theoretical propositions, or lines of inquiry. It is interesting to consider whether models or patterns of selection are particular to a type of industry, stage of industry, period, or region. Do more *active* entrepreneurs and organisations fare better than more *passive* entrepreneurs and organisations? In all circumstances? Can entrepreneurs and organisations change their environment, making

themselves more likely to be selected? To what extent is variation, as opposed to change, implicated in causing selection, at the exponent level, and the population level? Can luck be made, or defined?

It is possible to develop more empirical propositions, or lines of inquiry. In the causal chains ending in selection (for example, of service providers through award of contract), it may have been largely *people* that were selected, after an opportunity - intended, or consequential - of meeting. In this study, personal chemistry would seem to have figured most of all in models of selection. Did the industry in the West of England, specifically Bristol, come to support networks, or loose, transient webs of relationships rather than unified organisations, with end-to-end capabilities, and was this explained, amongst other things, by such a model of selection? Of existing service providers, how many date back to c.1997, and what was their headcount (as a surrogate for overhead) then, and what is it now? How does the industry compare in other regions? In other nations? How do other service industries compare (models of selection, patterns of selection)?

Last, the analysis is replicable. The model is theoretically consistent, parsimonious, and clear; the constructs are not grounded in empirical data, but provide for a credible description of complex phenomena.

6.2. Contributions of the present study

The study extends the locus of empirical research in organisational evolution and small firm studies to the emergent micro firm and entrepreneur, both successful, *and* failing. A model of the evolutionary algorithm was substantially developed through its course; its terms were clarified and originated through constant iterative engagement with the literature and the data. Social, organisational and entrepreneurial processes were found through *empirical* investigation to be *actually* evolutionary with respect to multiple units of selection.

6.3. Implications for management

It has been shown that evolutionary theory is not predictive, but algorithmic. Strategic management may be benefited by improved understanding of patterns and models of selection, and the role of variation and retention, through development of a body of case knowledge, rather than through whetting the managerial appetite to control and reduce uncertainty with a new means of predicting the course of future events.

In terms of small and micro firm management, and entrepreneurship, in conditions of emergence, longitudinal qualitative analysis suggested a significant role was played by personal relationships, particularly first impressions, and 'chemistry', as well as the means by which, and rate at which they were established. Also, retention, or constraints on variation were imposed by exogenous forces - with clients determining the nature, terms and conditions of work done.

6.4. Implications for further study

Organisational and entrepreneurial processes would seem then to be actually rather than analogically evolutionary. The study would therefore seem to support the stated value and viability of co-evolutionary, or multi unit approaches. It would also seem to confirm the value of qualitative, longitudinal research designs for causal analysis. It is suggested that qualitative elements might be combined with quantitative elements, as tend to be used in ecological or population level analyses, together contributing to a more complete understanding of the many facets of evolutionary organisational change.

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